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U.S. DISTRICT COURT
DISTRICT OF UTAH

**IN THE UNITED STATES DISTRICT COURT
DISTRICT OF UTAH, CENTRAL DIVISION**

STATE OF UTAH, et al.,

Plaintiffs,

v.

**DONALD L. EVANS, United States
Secretary of Commerce, et al.,**

Defendants.

)
) **Civil No. 2:01-CV-000292G**
)
) **CONSOLIDATED**
) **MEMORANDUM IN SUPPORT OF**
) **DEFENDANTS' MOTION TO**
) **DISMISS OR, IN THE**
) **ALTERNATIVE, THEIR**
) **CROSS-MOTION FOR SUMMARY**
) **JUDGMENT, AND IN OPPOSITION**
) **TO PLAINTIFFS' MOTION FOR**
) **SUMMARY JUDGMENT**

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INTRODUCTION

This is the second lawsuit that plaintiffs have brought seeking to judicially alter the apportionment of seats in the United States House of Representatives resulting from Census 2000. Once again, plaintiffs are urging the Court to take the drastic and unprecedented measure of ordering the reapportionment of the United States House of Representatives months after the Secretary has delivered the final population totals for the 2000 Census to the President, the President has transmitted the apportionment count to the Clerk of the U.S. House of Representatives, and the Clerk has notified each State of the number of representatives in Congress to which it is entitled. Plaintiffs are requesting this extraordinary relief because they wish to recalculate the apportionment count without using a routine data-processing procedure called imputation which added only a fraction of one percent to the total population count and which the Census Bureau has used in the course of its traditional enumeration process for the past five censuses, since 1960.

Imputation is a standard method used to address the problems of nonresponse and missing data experienced in any census. In the intervening decades since the Bureau began using imputation, Congress, which conducts rigorous oversight over all aspects of the decennial census, has never ordered the Census Bureau to refrain from using imputation, and the plaintiffs in this action have never raised, until now, an objection to the practice.

In another attempt to gain one more seat out of the Census 2000 results, plaintiffs now challenge this established practice on the grounds that it violates the Census Act, the Census Clause of the United States Constitution, and the Administrative Procedure Act. All three claims must fail. First, as the court in Qrr v. Baldrige, No. IP 81-604-C, slip op. (S.D. Ind. July 1, 1985) (attached hereto as Ex. A) found, imputation does not violate the Census Act's prohibition found

at 13 U.S.C. § 195 against using sampling for apportionment purposes, because imputation is a completely distinct and separate methodology from sampling. Sampling occurs at the *data collection* stage of a census or survey, when a sample of units is purposefully chosen from a population. Imputation is a procedure used at the *data processing* stage to assign values for missing data *after* one has attempted to contact the entire population. The language and legislative history of 13 U.S.C. § 195 establish that Congress was interested only in prohibiting the sampling practice.

Second, imputation neither implicates nor violates the constitutional requirement to conduct an actual Enumeration. Judicial review of the constitutionality of the Secretary's decisions with regard to the conduct of the census is highly deferential, limited to determining whether those decisions "are consistent with the constitutional language and the constitutional goal of equal representation." Wisconsin v. City of New York, 517 U.S. 1, 19-20 (1996) (citation omitted). As imputation is a method developed to ensure that as many inhabitants as possible are in fact counted, it is consistent with the constitutional language regarding actual enumeration. And because imputation furthers the accuracy of the census, it promotes the purpose of the Census Clause, which is to provide for equal representation in the House of Representatives.

Finally, as was the case in State of Utah v. Evans, No. 2:01CV0023B, slip op. (D. Utah April 17, 2001) (three-judge court) (attached hereto as Ex. B) (Utah I), plaintiffs' first, unsuccessful, and similarly belated attempt to wrest from North Carolina the 435th seat in the House of Representatives, review under the Administrative Procedure Act (APA), 5 U.S.C. § 706(2)(A), is precluded by the Supreme Court's decision in Franklin v. Massachusetts, 505 U.S.

788 (1992). Even if an APA challenge could be mounted, plaintiffs could not meet their burden of showing that the Census Bureau's long-standing and reasoned practice of using imputation is arbitrary and capricious. As explained below, the question is not whether to impute, but how, and that decision has been left to the Secretary's discretion.

The methodologies for conducting Census 2000 were studied, debated, and litigated for 10 years before the count was performed. Plaintiffs, having sat silently for that entire decade (and having never challenged the use of imputation in the past five decennial censuses) cannot now, only after the 2000 Census was conducted and the apportionment effected, be heard to claim that the entire congressional apportionment should be overhauled.

For all of these reasons, plaintiffs' attempt to overturn the result of the 2000 reapportionment should be rejected.

RESPONSE TO PLAINTIFFS' STATEMENT OF MATERIAL FACTS

Defendants respond to plaintiffs' Statement of Material Facts Not in Dispute ("SOF") as follows:

Plaintiffs' SOF contains contentions regarding the ultimate issues at stake in this litigation, such as whether imputation is sampling. For a complete response to these contentions, the Court is referred to the attached memorandum.

Plaintiffs' SOF relies on the Declarations of Lara J. Wolfson and Donald B. Rubin. Any evidence provided to the Court in declarations must meet the same evidentiary standards as at trial. Fed. R. Civ. P. 56(e). The declarations submitted by plaintiffs lack the necessary foundation required under Fed. R. Civ. P. 602. In addition, plaintiffs' declarations purport to offer "expert" opinions; however, they do not meet the stringent requirements of Rule 702 of the

Federal Rules of Evidence. The declarations clearly (1) are not "based upon sufficient facts or data," (2) are not "the product of reliable principles and methods," if any, and therefore (3) do not, and cannot, apply "the principles and methods reliably to the facts of the case." Fed. R. Evid. 702; see also Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 593-94 (1993); Kumho Tire Co. v. Carmichael, 526 U.S. 137, 150-52 (1999). Because the Wolfson and Rubin declarations do not meet the requirements of Rule 702, the declarations cannot "not be based on scientific, technical, or other specialized knowledge within the scope of Rule 702." Fed. R. Evid. 701. Accordingly, the declarations of Drs. Wolfson and Rubin should be either stricken or disregarded.

Defendants also object to consideration of the declarations of Drs. Wolfson and Rubin on the ground that, to the extent that judicial review of plaintiffs' claims is governed by the Administrative Procedure Act, 5 U.S.C. § 551 et seq., review is limited to the administrative record compiled by the relevant agency and supplementation of the administrative record, through declarations or other means, is impermissible.

Defendants specifically object to the consideration of the Declaration of Lara Wolfson to the extent that she describes the procedures used by the Census Bureau in the conduct of the decennial censuses. Such descriptions are purely factual in nature, and Dr. Wolfson's declaration does not establish that she has any personal knowledge of such matters. In addition, many of Dr. Wolfson's allegations are offered without any evidentiary support. The proffered testimony therefore lacks sufficient foundation under Fed. R. Evid. 602.

Defendants further object to the consideration of the Declaration of Lara Wolfson on the ground that she is not qualified as an expert under Fed. R. Evid. 702 to render an opinion as to

the nature and methods of imputation. Dr. Wolfson's declaration does not establish that she has any particular knowledge, skill, experience, training, or education in the specific field of imputation.

The Declaration of Dr. Wolfson cites to the Report to Congress: The Plan for Census 2000 (Aug. 1997) (A.R. C00126-92)¹ (the "Report to Congress") in many places. This report describes the Census Bureau's proposed plan for Census 2000 that included sampling. The sampling portions of this plan were invalidated by the Supreme Court's decision in Department of Commerce v. United States House of Representatives, 525 U.S. 316 (1999), and the Census Bureau accordingly never implemented this plan. Dr. Wolfson's reliance on the Report to Congress to describe what actually occurred in Census 2000 is therefore incorrect, and any factual allegations drawn from that Report should be disregarded by the Court. In addition, any factual allegations in the SOF drawn from the Report to Congress (and the plan on which it was based, Census 2000 Operational Plan (July 1997) (A.R. C0001-125), should be disregarded by the Court.

Defendants respond to the remaining paragraphs of plaintiffs' SOF individually by paragraph number, as follows:

Paragraphs 1-3 are statements of law, not of fact, to which no response is required.

¹ A.R. cites are to the Administrative Record filed by defendants in this case. Plaintiffs filed, with their Motion for Summary Judgment, a compilation of documents which they characterized as the Administrative Record. Those documents, bate-stamped C00001 - C01187, represented both documents which defendants provided in response to plaintiffs' requests for production of documents, as well as documents that would be in the administrative record supporting the Census Bureau's decision to use imputation for Census 2000. Defendants have filed defendants the complete administrative record, which includes those documents previously filed by plaintiffs as well as additional documents, herewith.

4. The first sentence of this paragraph is a statement of law, not of fact, to which no response is required. The second sentence is inconsistent with the facts and with plaintiffs' paragraph 7, in which they state that the "majority of households (more than 80%)" have census forms mailed to them. Census forms delivered and returned by mail are now the primary method of enumeration and not a "supplement[]" to other methods. See Declaration of Howard Hogan, Chief of the Decennial Statistical Studies Division ("DSSD") of the Census Bureau, filed in support herewith, ¶ 42 ("Hogan Decl.");² Edwin D. Goldfield, National Research Council, Innovations in the Decennial Census of Population and Housing: 1940-1990, at 10, 41-43 (Aug. 1992) (A.R. C01353, 1384-86).

5. The description given of the development of the Master Address File ("MAF") errs in certain specific respects, such as in referring to other federal agencies and community organizations as providing assistance and describing the canvassing as limited to selected areas, and is moreover incomplete. A more accurate description of the development of the MAF, also known as the Decennial MAF ("DMAF"), is included in the following documents: The Census Bureau's Master Address File (MAF): Census 2000 Address List Basics (Mar. 1999) (A.R. C01490-504); DSSD Census 2000 Procedures and Operations Memorandum #D-6, Specification for Updating the Decennial Master Address File in April, 2000 (Mar. 27, 2000) (A.R. C01545-54); DSSD Census 2000 Procedures and Operations Memorandum Series #D-11, Specification for Reinstating Addresses Flagged as Deletes on the Hundred Percent Census Unedited File

² To reduce the bulk of the present memorandum and its exhibits, the Declarations of Howard Hogan and Joseph Waksberg, former Associate Director of the Census Bureau and currently Chairman of the Board of Westat, Inc. ("Waksberg Decl."), in support hereof, with their exhibits, are filed being separately.

(HCUF) (Nov. 7, 2000) (A.R. C01579-84); Hogan Decl. ¶ 68. These errors are immaterial.

6. The Census Bureau used more than three different procedures to contact housing units in Census 2000, including mail-out/mail-back, update/leave, list/enumerate, update/enumerate, Be Counted, the Internet, telephone centers, and special enumeration procedures. See Census 2000 Operational Plan (Dec. 2000) § IX (A.R. C00266-275); Hogan Decl. ¶¶ 70-72. Plaintiffs' errors in this regard are immaterial.

7. There are more than three "traditional methods" of enumeration. At least the first four methods listed in paragraph 6 above could be considered "traditional methods." Plaintiffs' parenthetical defining "city-style addresses" as those "that identify the precise location of the housing unit" is incorrect. "City-style addresses" are those that contain a house number and a street name. Census 2000 Operational Plan (Dec. 2000), at IX-1 (A.R. C00267). These errors are immaterial.

8. The parenthetical defining "non-city-style" addresses as those that "do not identify the precise location of the housing unit" is incorrect. A more accurate definition of "non-city-style" addresses is simply those that do not contain a house number and street name. See ¶ 7 supra. In update/leave, the enumerator leaves a questionnaire at the housing unit but not necessarily for the "head" of the household to fill out. See Census 2000 Operational Plan (Dec. 2000), at IX-1 (A.R. C00267). These errors are immaterial.

9. The identification of telephone contact as a procedure under the "list/enumerate" procedure is incorrect. List/enumerate requires the enumerator to visit each housing unit. See Census 2000 Operational Plan (Dec. 2000), at IX-1 (A.R. C00267). This error is immaterial.

10. The description of the enumeration programs in this paragraph is inaccurate in some respects and incomplete. A more accurate description of the Be Counted program, the Telephone Questionnaire Assistance program, the Internet program, and other special enumeration procedures can be found in the Census 2000 Operational Plan (Dec. 2000), at IX-2-9 (A.R. C00268-75). Plaintiffs also omit to mention the coverage edit followup (CEFU) program. See id., at IX-10-11 (A.R. C00276-77). These errors are immaterial.

11. The description of the enumerator making "multiple visits or telephone calls" is imprecise. Enumerators were instructed to make six attempts to contact the occupants of a particular housing unit (housing units that appeared vacant were recorded as such and followup efforts were ceased). United States Census 2000: Final Attempt Procedures for FOSs (Nonresponse Followup) (Apr. 2000) (A.R. C00819-41); Kenneth Prewitt, Director, U.S. Bureau of the Census, Accuracy and Coverage Evaluation: Statement on the Feasibility of Using Statistical Methods to Improve the Accuracy of Census 2000, at 1 (June 2000) (A.R. C01911); Hogan Decl. ¶ 73. This error is immaterial.

12. The description of the coverage improvement followup ("CIFU") program is incomplete. CIFU required an interviewer recheck of housing units classified as vacant or nonexistent during nonresponse follow-up to ensure that no units were misclassified, as well as to check on new construction, lost or blank forms, and other coverage problems. Census 2000 Operational Plan (Dec. 2000), at IX-13-14 (A.R. C00279-80); Hogan Decl. ¶ 74.

13. The first sentence of this paragraph is correct. With regard to the second sentence, the Census Bureau uses imputation to assist in determining, not to estimate, a population count.

14 & n.3. Plaintiffs' description of the delete policies for the DMAF are incomplete. The "double-delete" rule was only one criterion used to assign a final status of "delete." There are several other criteria that led to the assignment of a "delete" status when the Bureau had a response that indicated an address was not valid or a duplicate. See DSSD Census 2000 Procedures and Operations Memorandum Series #D-14, Specifications for Assigning the Housing Unit Status and Population Count on the Hundred-Percent Unedited File Prior to the Imputation for Unclassified Units (Jan. 19, 2001) (A.R. C00988-1009); DSSD Census 2000 Procedures and Operations Memorandum Series #D-13, Specification of the Kill Universe on the Decennial Master Address File for Census 2000 (Dec. 21, 2000) (A.R. C01585-1601); DSSD Census 2000 Procedures and Operations Memorandum Series #D-11, Specification for Reinstating Addresses Flagged as Deletes on the Hundred Percent Census Unedited File (HCUF) (Nov. 7, 2000) (A.R. C01579-84); Hogan Decl. ¶ 69.

15. Plaintiffs mischaracterize defendants' discovery responses and are imprecise in the language they use in this paragraph. Defendants' discovery responses do not state that, through the 1950 Census, "the apportionment count was derived exclusively from actual data gathered by census enumerators, and did not include any estimates generated by statistical methods." The responses purport only to describe the use of imputation to determine the apportionment count in censuses from 1960 on. To the extent that plaintiffs mean to state that the use of imputation to determine the apportionment count did not occur until the 1960 Census, defendants agree. Hogan Decl. ¶ 41; Encyclopedia, at 197 (A.R. C00431). Defendants object to the use of the phrase "estimates generated by statistical methods" to describe imputation. Although not incorrect, the phrase is overly broad and includes many dissimilar statistical methods. Plaintiffs

appear to be using this phrase to attempt to suggest that imputation is similar to sampling, which it is not. Hogan Decl. ¶¶ 7, 18-30.

16. Defendants disagree with plaintiffs' characterization of imputation as being used to "supplement the apportionment count" in any census. However, defendants agree that count imputation has been used in determining the apportionment count in the 1960 Census and subsequent censuses. Hogan Decl. ¶ 41-65; Encyclopedia, at 197 (A.R. C00431).

17 & n.4. Plaintiffs' characterization of the use of imputation in the 1960-1980 Censuses is an oversimplified description of household size imputation and occupancy imputation. Cf. Hogan Decl. ¶¶ 14, 41-65. Plaintiffs' characterization of the use of imputation in the 1990 Census is incorrect. As set forth in defendants' Interrogatory Responses, the 1990 imputation procedures continued the prior practice of using household size imputation and occupancy imputation but added status imputation, which is defined in the Hogan Declaration at ¶ 14. See DSSD 1990 REX Memorandum Series #BB-11, Summary of the 1990 Decennial Census Edit and Imputation Procedures for the 100% Population and Housing Items 3 (Oct. 5, 1994) (A.R. C00778) (hereafter "1990 Imputation Specifics (BB-11)"). With regard to the assertions in note 4, the Court is referred to the Declaration of Howard Hogan ("Hogan Decl."), ¶¶ 48-49, 54, 56, for a complete response.

18. Although the word "know" is vague and ambiguous, the description of the imputation procedures used in the 2000 Census is generally correct, but the Court is referred to the Declaration of Howard Hogan, ¶¶ 58-60, and the sources cited therein, for a complete and accurate description of the methods of count imputation used in the 2000 Census. See also DSSD Census 2000 Procedure and Operations Memorandum Series #Q-34, Census 2000

Specifications for Imputing Housing Unit Status and Population Counts (Sept. 26, 2000) (hereinafter "2000 Imputation Specifications (Q-34)") (A.R. C00858-86)

19 & n.6. Although the Bureau has continually revised and updated its count imputation procedures, the procedures used the 1960, 1970, and 1980 censuses can generally be described as similar. See Hogan Decl. ¶ 43, 46-47, 52-57. The count imputation methodology used in 1970 did not differ "significantly" from the methodology used in 1960 and 1980. Id. ¶ 46-47. In the last sentence of this paragraph, plaintiffs' statements are correct that defendants' legal position is that imputation does not amount to statistical sampling and that some of the procedures used in 1970 were sampling procedures. However, defendants disagree with plaintiffs' suggestion that the use of count imputation in 1970 constituted sampling. Hogan Decl. ¶¶ 7, 18-30. In note 6, plaintiffs' description of the procedures at issue lacks any meaningful detail. A more accurate description of the National Vacancy Check and the Post Enumeration Post Office Check can be found in 1970 Census of Population and Housing, Evaluation and Research Program, Effect of Special Procedures to Improve Coverage in the 1970 Census (PHC(E)-6) Chaps. VI & VII (1976) (A.R. C00404-11), and R. Killion, DSSD Briefs, Information, and Topics Memorandum Series #F-1, Sampling and Statistical Methods in Past Censuses 2-4 (Jan. 13, 1997) (A.R. C01461-63).

20. In 1980, the Bureau's use of count imputation shifted one seat in the House of Representatives from Indiana to Florida. Orr v. Baldrige, No. IP-81-604-C, slip op. (D. Ind. July 1, 1985) (A.R. C00652-65). Similarly, count imputation affected apportionment in the 2000 Census. The Bureau no longer has data available to determine whether count imputation affected apportionment in the 1960 or the 1970 Censuses. Hogan Decl. ¶ 50 n.9.

21. The statistical imputation methodology employed in Census 2000 is a separate, distinct statistical methodology from sampling. Hogan Decl. ¶¶ 7, 18-30. Imputation is part of the Census Bureau's traditional methods of enumeration. Id. ¶¶ 7, 11.

22. This paragraph contains plaintiffs' characterization of the cited Census Bureau document, which speaks for itself. Plaintiffs' characterization is generally accurate, in that the cited page differentiates "traditional methods of enumeration" from statistical sampling. However, plaintiffs ignore that the Bureau views imputation as part of its traditional methods of enumeration. See Census Undercount Adjustment: Basis for Decision, 45 Fed. Reg. 69,366, 69,373 (Oct. 20, 1980) (A.R. C01220); Census 2000 Operational Plan Using Traditional Census-Taking Methods II-6, XI-4 (Jan. 1999) (A.R. C01752, C01818); Updated Summary: Census 2000 Operational Plan 9 (Feb. 1999) (A.R. C01731); Hogan Decl. ¶ 7, 11, 63.

23. This paragraph contains plaintiffs' characterization of the cited Census Bureau document, which speaks for itself. These documents establish that the Census Bureau has characterized "imputation" as a "statistical method." However, they do not show that the Census Bureau has ever characterized imputation as "sampling." For example, on page 23 of The Report to Congress, the Census Bureau calls imputation a "statistical method," not a "method of 'sampling.'" See A.R. at C00155.

24. The Census Bureau has never acknowledged that "sampling" occurs "whenever" information on a portion of the population is used to infer information about "unobserved portions" of the same population, and the cited sources are completely inapposite to plaintiffs' allegation.

25. Plaintiffs' definition of sampling is overly broad and incorrect. A correct description of and definition of sampling are included in the Hogan Declaration, paragraphs 18-30 and in the Declaration of Joseph Waksberg ("Waksberg Decl."). See also Orr, slip op.

26. Plaintiffs' descriptions of sampling and imputation in this paragraph are incorrect. Defendants do not agree that imputation is sampling. The correct descriptions of and differences between imputation and sampling are set out in the Hogan Declaration, paragraphs 18-30, and in the Waksberg Declaration.

27. Plaintiffs' descriptions and comparisons of sampling and imputation in this paragraph are incorrect. Defendants do not agree that imputation is sampling "on a smaller scale." The correct descriptions of and comparisons between imputation and sampling are set out in the Hogan Declaration, paragraphs 18-30, and in the Waksberg Declaration.

28. Imputation is not quota sampling and does not involve a "sample selection mechanism." Hogan Decl. ¶¶ 7, 18-30; Waksberg Decl.

29. The type of sampling methodology at issue in House is irrelevant to this case and therefore the Court should disregard this paragraph. In any event, the opinion in House speaks for itself.

30. Imputation does not make use of a "nonrandom, nonrepresentative sample." Hogan Decl. ¶ 18-30; Waksberg Decl. The form of hot-deck imputation used in Census 2000 is not known as the "nearest-neighbor" hot-deck method. Id. ¶ 17.

31. The hot-deck form of imputation used in Census 2000 is not a form of "non-random, non-representative sampling." Hogan Decl. ¶¶ 18-30; Waksberg Decl. In the first two sentences of this paragraph, plaintiffs do not identify to which census they are referring. To the

extent that they are referring to the 2000 Census, the description of the count imputation procedures used is inaccurate and incomplete. The details of the Census 2000 count imputation procedures are set forth in 2000 Imputation Specifications (Q-34) (A.R. C00858-86). Of relevance here, the Census Bureau selected the donor housing units only from the universe of housing units that had their questionnaire completed by an enumerator, rather from the "nearest enumerated unit within the same census tract" or its "geographically closest enumerated neighbor within the same tract." A.R. C00861. Also, if possible, the donor and the donee were both from a single unit structure or a multi-unit structure. A.R. C00862.

32. Defendants do not agree that hot-deck imputation differs from the statistical sampling at issue in House only in the ways identified by plaintiff or that imputation is not "anything other than a form of statistical sampling." See Hogan Decl. ¶¶ 18-30; Waksberg Decl.

33. Imputation is not a "form[]" of sampling." Hogan Decl. ¶¶ 18-30; Waksberg Decl. Hot-deck imputation does not rest on a "questionable" statistical assumption. Hot-deck imputation is a well-supported statistical method. Hogan Decl. ¶¶ 17, 31. The hot-deck method that was used is premised on local homogeneity, *i.e.*, the fact that housing units in close geographic proximity tend to be similar in most respects, including size. This assumption is well supported in the literature. *Id.* In addition, the imputation procedures for Census 2000 required the donor household to be from an enumerator-completed form, which meant that in mailback areas donors were restricted to households requiring field follow-up. Also, if possible, the donor and donee were both from either a single unit structure or a multi-unit structure. 2000 Imputation Specifications (Q-34) (A.R. C00858-86). These changes were implemented to reduce the kinds of nonsimilarities alluded to by plaintiffs in this paragraph. Hogan Decl. ¶ 38.

34. Hot-deck imputation is not "less reliable" than other statistical methods and does not rely on donor households that are "demonstrably different" from the households being imputed. Hot-deck imputation is a well-supported statistical method. Hogan Decl. ¶¶ 17, 31. The hot-deck method that was used is premised on local homogeneity, i.e., the fact that housing units in close geographic proximity tend to be similar in most respects, including size. This assumption is well supported in the literature. *Id.* The imputation procedures for Census 2000 required the donor household to be from an enumerator-completed form, which meant that in mailback areas donors were restricted to households requiring field follow-up. Also, if possible, the donor and donee were both from either a single unit structure or a multi-unit structure. 2000 Imputation Specifications (Q-34) (A.R. C00858-86). These changes were implemented to reduce the kinds nonsimilarities alluded to by plaintiffs in this paragraph. Hogan Decl. ¶ 38.

35 & n.8. Hot-deck imputation is not a "leap of faith" and is not "removed from traditional enumeration methods." Hot-deck imputation is a well-supported statistical method that has been used in many censuses as part of the Bureau's traditional enumeration methods. Hogan Decl. ¶¶ 7, 11, 17, 31, 63. With regard to note 8, in designing and planning Census 2000, the Census Bureau focused on achieving numeric accuracy because it is difficult to predict in advance the effect of census operations on distributive accuracy. *Id.* ¶¶ 31-38. Imputation furthers numeric accuracy. *Id.*

36. The hot-deck imputation procedure used in Census 2000 was not applied to "units not known to exist" and the procedure should not have resulted in "overestimation." Hogan Decl. ¶¶ 9, 37.

37. Imputation does further the accuracy of the census. Imputation makes the census more accurate because refusing to impute ignores some people that attempted to participate in the census. To impute zero, as plaintiffs apparently would do, would actually result in *more* error, rather than less. Hogan Decl. ¶¶ 31-38.

38. Defendants have compiled an Administrative Record, which is being filed with this Memorandum. The purported "Administrative Record" filed by plaintiffs is not the true, complete Administrative Record filed herein by defendants. Defendants' Administrative Record contains numerous studies and analyses regarding imputation. Hogan Decl. ¶¶ 31, 51.

39. Defendants do not agree that their use of imputation in Census 2000 "altered" the apportionment from what it would have been under a traditional enumeration. Imputation is part of a "traditional enumeration." Defendants also do not agree that imputation gives them enormous discretionary control over the allocation of representatives in Congress and that this provides an opportunity for manipulation. Imputation procedures are generally pre-specified, and it is impossible to know in advance the effects of those procedures on the apportionment count. Hogan Decl. ¶ 31-38, 65.

40. It is generally impossible to know in advance the effects of specific procedures on the rate of imputation. Hogan Decl. ¶¶ 31-38. Census Bureau conduct of the census is subject to thorough scrutiny by Congress and others. *Id.* ¶ 65. The Census Bureau did not and cannot intentionally determine the extent to which imputation is used by prescribing certain procedures with regard to adding and deleting addresses from the DMAF. *Id.* ¶¶ 68-69.

41. It is generally impossible to know in advance the effects of specific procedures on the rate of imputation. Hogan Decl. ¶¶ 31-38. Census Bureau conduct of the census is subject to

thorough scrutiny by Congress and others. Id. ¶ 65. The Census Bureau did not and cannot intentionally determine the extent to which imputation is used by prescribing certain procedures with regard to nonresponse followup.

43. It is generally impossible to know in advance the effects of specific imputation methods on the total imputed numbers. Hogan Decl. ¶¶ 7, 18-30; Waksberg Decl. Census Bureau conduct of the census is subject to thorough scrutiny by Congress and others. Id. ¶ 65. The Census Bureau did not and cannot intentionally determine the number of persons imputed by prescribing certain imputation methods.

44. Imputation is not "a form of statistical sampling." Hogan Decl. ¶¶ 7, 18-30; Waksberg Decl.

45. Imputation was not used to "add[]" people to the apportionment count; it was used to determine apportionment count.

46. Plaintiffs do not define "*known* population counts" and "actually enumerated," and defendants do not agree with the implication that imputation does not produce an actual enumeration or a "known" population count. Defendants do not disagree that, if the 2000 apportionment counts had been calculated without the use of count imputation, Utah would have been entitled to four seats beginning in 2003, North Carolina would have been entitled to 12 seats, and all other states would have been entitled to the number of seats allocated following the 2000 Census.

47. Defendants agree that, if the 2000 apportionment counts had been calculated without the use of status imputation, Utah would have been entitled to four seats beginning in 2003, North Carolina would have been entitled to 12 seats, and all other states would have been

entitled to the number of seats allocated following the 2000 Census.

STATEMENT OF MATERIAL FACTS NOT IN DISPUTE

I. CONSTITUTIONAL AND STATUTORY BACKGROUND

1. Article I, § 2, cl. 3 of the Constitution provides for the decennial census to apportion representatives in the House among the states:

Representatives . . . shall be apportioned among the several States which may be included within this Union, according to their respective Numbers. . . . The actual Enumeration shall be made . . . within every . . . Term of ten Years, in such Manner as [the Congress of the United States] shall by Law direct.

2. Congress has set the number of representatives at 435. See Pub. L. 86-3, § 8, 73 Stat. 4, 8 (1959); Pub. L. 85-508, § 9, 72 Stat. 339, 345 (1958); Pub. L. 62-5, § 1, 37 Stat. 13, 14 (1911).

3. Congress has charged the Secretary of Commerce with conducting the decennial census:

The Secretary shall, in the year 1980 and every 10 years thereafter, take a decennial census of population as of the first day of April of such year, which date shall be known as the decennial census date, in such form and content as he may determine, including the use of sampling procedures and special surveys. In connection with any such census, the Secretary is authorized to obtain such other census information as necessary.

13 U.S.C. § 141(a) (emphasis added).

4. Section 195 of Title 13, provides that:

Except for the determination of population for purposes of apportionment of Representatives in Congress among the several States, the Secretary shall, if he considers it feasible, authorize the use of the statistical method known as sampling in carrying out the provisions of this title.

13 U.S.C. § 195, as amended by Pub. L. No. 94-521, § 10, 90 Stat. 2459, 2464 (1976).

5. The Secretary is required to provide the total population counts for apportionment purposes to the President within nine months (by January 1) of the decennial census date. 13 U.S.C. § 141(b). In Census 2000 and most 20th century censuses, the census date has been April 1, requiring the President to receive the counts by December 31 of each census year. The Secretary of the Commerce delivered the counts for the 2000 Census to the President on December 28, 2000.

6. According to Title 2 of the U.S. Code, within one week of the opening of the next session of the Congress in the new year, the President must report to the Clerk of the U.S. House of Representatives the apportionment population counts for each state and the number of representatives to which each state is entitled. 2 U.S.C. § 2a. The President transmitted the counts for the 2000 Census to the Clerk of the U.S. House of Representatives by letter dated January 4, 2001.

7. According to Title 2 of the U.S. Code, within fifteen (15) days of receiving the apportionment population counts from the President, the Clerk of the House must inform each state governor of the number of representatives to which each state is entitled. The Clerk of the U.S. House of Representatives notified each state (via a Certificate of Entitlement) of the number of representatives in Congress to which it is entitled on January 16, 2001.

8. Within one year of the census date, the Secretary must deliver census compilations to the states for redistricting. 13 U.S.C. § 141(c).

II. OVERVIEW AND FACTUAL BACKGROUND

A. Census 2000

9. The census is an enormous undertaking. Often called the largest peace-time mobilization in history, the decennial census requires the recruitment of over half a million potential employees and produces staggering amounts of data – in Census 2000, the Census Bureau processed data for over 120 million households and handled over 147 million paper questionnaires. See Declaration of Howard Hogan, Chief of the Decennial Statistical Studies Division ("DSSD") of the Census Bureau, filed in support herewith (Hogan Decl.) ¶ 8;³ Final Data Receipt Summary (Sept. 15, 2000) (A.R. C01578). As acknowledged by plaintiffs (Pltfs' Mem. at 6-9) and Dr. Wolfson (¶¶ 17-27), the Bureau made an exhaustive and herculean attempt to obtain responses from every household in the United States, focusing on outreach and instituting new procedures and programs to improve the mail response rate and to provide other convenient ways for persons to respond to the census. See Hogan Decl. ¶¶ 66-75; Census 2000 Operational Plan (Dec. 2000), at I-1-3, IV, V-7 (A.R. C00198-200, C00220-24; C00233). In 2000, the Census Bureau also utilized new technologies to improve its address list and perform unduplication, editing and processing procedures. Id. ¶¶ 68-69, 71, 74. Finally, the Census Bureau went to extensive efforts to follow up on nonresponding households and to obtain missing data – including performing interviewer rechecks and telephone interviews, and making up to six attempts to obtain interviews before seeking to obtain the information from proxy

³To reduce the bulk of the present memorandum and its exhibits, the Declarations of Howard Hogan and Joseph Waksberg, former Associate Director of the Census Bureau and currently Chairman of the Board of Westat, Inc. ("Waksberg Decl."), in support hereof, with their exhibits, are filed being separately.

respondents, such as neighbors, landlords and postal workers. Id. ¶¶ 73-74; see also United States Census 2000: Final Attempt Procedures for FOSs (Nonresponse Followup) (April 2000) (A.R. C00819-27); United States Census 2000: Final Attempt Procedures for Enumerators (Nonresponse Followup) (April 2000) (A.R. C00828-41). All of these operations were subject to quality assurance. Id. ¶ 75.

10. Despite the Census Bureau's intense efforts to locate and enumerate every individual, inevitably some people cannot be reached, some forms are lost, or certain data are entered incorrectly, resulting in a limited amount of missing data. Hogan Decl. ¶ 8. It is only then, at the end of this very long and arduous process, that the Census Bureau has utilized, since 1960, a data-processing technique known as imputation to account for missing data relating to a small number of households. Id. ¶ 76.

B. General Overview Of Imputation

11. Imputation is a longstanding, valid, and widely-recognized statistical method used to account for missing, discrepant, or improperly processed data.⁴ Hogan Decl. ¶¶ 16, 31; see also Roderick J.A. Little & Donald B. Rubin,⁵ Statistical Analysis With Missing Data 43 (1987)

⁴The phrase missing data refers to a wide variety of situations. The categories of missing data and the processes that lead to them have changed over the decades as the census has become increasingly computerized and centralized. In the 2000 Census, the various processes that created missing data included incomplete or unavailable responses from housing units with previously confirmed addresses, conflicting or discrepant data from the same housing unit, and failures in the data-capture process. The various types of missing data included characteristic data (information about an enumerated person, such as sex, race, age), population count data (information about the number of occupants in an identified housing unit), and data about a housing unit's status (whether it is vacant, occupied, or nonexistent). Hogan Decl. ¶ 9.

⁵Donald B. Rubin is one of plaintiffs' declarants in this action. He also provided a declaration for plaintiff Indiana in the Orr litigation concerning the use of imputation in the 1980 Census.

("Imputation is a general and flexible method for handling missing-data problems.") (excerpts attached hereto as Ex. C); Donald B. Rubin, Multiple Imputations in Sample Surveys – A Phenomenological Bayesian Approach to Nonresponse 2 (1978) ("in multiresponse surveys, some form of imputation is just about the only practically possible method for handling nonresponse") (attached hereto as Ex. D).

12. One variety of imputation, count imputation, is imputation that assigns a population count to a housing unit.⁶ Hogan Decl. ¶ 13. Count imputation procedures apply when the Census Bureau is unable to secure any information regarding a given address, or when the Census Bureau has some information about the address but not the definitive number of occupants. Id. This imputation has been used as part of the Census Bureau's traditional enumeration process in every decennial census since, and including, 1960. Id. ¶ 7, 11, 39. In general, count imputation can be broken into three categories: (1) household size imputation – when records indicate that the unit is occupied, but do not show the number of individuals residing in the unit; (2) occupancy imputation – when records indicate that a housing unit exists, but not whether it is occupied or vacant; and (3) status imputation – when the Census Bureau's records have conflicting or insufficient information about whether an address represents a valid, non-duplicated housing unit. Id. ¶ 14. With regard to status imputation, it is important to recognize that the addresses for which such imputation is performed are not fictional or phantom addresses. These addresses are addresses for which sufficient information exists to include them

⁶Characteristic imputation supplies missing characteristic data for a housing unit's response. For example, if a given housing unit did not provide ages for the individuals living in the housing unit, but supplied all other information, age would be imputed for the individuals in that housing unit. Hogan Decl. ¶ 12.

in the Census Bureau's Master Address File (MAF). Id. ¶ 15. Indeed, all forms of imputation are applied only to addresses in the MAF. Id.

13. The basic method the Census Bureau has used for count imputation since the 1960 Census is the hot deck methodology, in which the imputed information comes from the same census. Hogan Decl. ¶ 16. The hot-deck method is premised on local homogeneity, i.e., the fact that housing units in close geographic proximity tend to be similar in most respects, including size.⁷ Id. ¶ 17. In the sequential form of hot-deck imputation used in the earlier censuses, housing unit data were stored sequentially in a file as they were processed, and when occupancy or population data for a particular unit were incomplete, the computer referred to this sequential file, or hot deck, to obtain data from the most recently processed housing unit. In more recent censuses, including the 2000 Census, this methodology has been improved to incorporate other factors believed to help determine what donor unit is most similar to the unit subject to imputation. Id.

14. In the census context, there are two basic alternatives for handling missing data for an identified address: (1) assign no value (or zero) to the empty data fields, or (2) impute plausible values for the empty fields. Hogan Decl. ¶ 10; Affidavit of Barbara A. Bailar filed on behalf of the Department of Commerce and the Bureau of the Census in Orr v. Baldrige ("Bailar

⁷The validity of this premise has been extensively studied and affirmed. See K. Wolters, Intraclass Correlation Study – Analysis of 1976 RAV Data (July 31, 1978) (A.R. C00534-46); D. Harner, Results of Imputation Run Length Tabulation (Sept. 17, 1982) (A.R. C00601-06); D. Harner, Results of Imputation Run Length Tabulation for Special Study EDs (Sept. 20, 1982) (A.R. C00607-15); K. Thomas, Intraclass Correlations Using a Sample of 1980 Census Data (Jan. 31, 1984) (A.R. C00634-50); R. Fay, Theory and Application of Nearest Neighbor Imputation in Census 2000 (A.R. C001647-56); Joseph L. Schafer, Model-Based Imputation of Census Short-Form Items, Bureau of the Census, Proceedings of the 1995 Annual Research Conference 268, 272 (1995) (A.R. C01418, C01422).

Aff.") ¶ 13 (A.R. C00570-71) (attached hereto as Ex. E); Orr, slip op. at 10; D. Harner, Imputation in the 1980 Census (Nov. 4, 1982) (A.R. C00616); 1980 Census Imputation of Population Characteristics (Feb. 5, 1988) (A.R. C01256-59). Under either alternative, imputation takes place – by default or explicitly. Hogan Decl. ¶ 10; Orr, slip op. at 6. The first alternative is the equivalent of imputing a value of zero and deciding that all returns with questionable or incomplete data represent vacant or nonexistent housing units. Id. This conclusion is demonstrably untrue, as studies repeatedly have shown that a significant proportion of returns with questionable or incomplete data or unresolved status are actually valid, occupied housing units. See id.; see also Bailar Aff. ¶ 17-19 (A.R. C00571-72) (Ex. E); J. Beresford, The Need for a Study of Persons Created by Computer Edit in the 1960 Census (Jan. 2, 1963) (A.R. C01188-90); M. Lear, Occupied Units Misclassified as Vacant, and Erroneous Deletions (Feb. 19, 1968) (A.R. C01197-1203); Census Undercount Adjustment: Basis for Decision, 45 Fed. Reg. 6,9373 (Oct. 20, 1980) (A.R. C01220); B. Denton, Results of National Vacancy Check (April 30, 1971) (A.R. C00472-480); J. Curry, Background Information on Indiana Suit (July 28, 1981) (A.R. C00555-57). The real issue therefore is not whether to impute, but what type of imputation will be the most accurate – an imputation by default (i.e., imputing "0" occupants to a household known to be occupied) or imputation by plausible values (i.e., imputing a plausible value based on real data).

C. History Of Census-Taking

15. The first census taken in the new United States occurred in 1790. Act of Mar. 1, 1790, ch. 2, § 1, 1 Stat. 101. Censuses from 1790 through 1830 relied on the family, or household, to provide information and to serve as the smallest unit of counting. Hogan Decl. ¶

11. In 1850, the government began taking the census by individual name, rather than by the name of the head of the family only. Act of May 23, 1850, schedule 1, 9 Stat. 428, 433 (1850). Beginning in 1880, census-takers have been authorized to obtain information from "proxies," such as neighbors, landlords, or postal workers, during "close-out" procedures when a member of the household could not be found after repeated tries. See Hogan Decl. ¶ 11; Act of March 3, 1879, ch. 195, § 8, 20 Stat. 473, 475.

16. In the 1940 Census, the Census Bureau first began making use of surveys and sampling. See Encyclopedia of the Census 219-20, 327 (Margot J. Anderson ed., 2000) (hereafter "Encyclopedia"); Bureau of the Census, United States Dep't of Commerce, Report to Congress – The Plan for Census 2000, at 1 (1997) (hereafter "1997 Report to Congress") (A.R. C0133). Responding to pressure to obtain information on topics such as unemployment, housing, and income, the Bureau developed a set of supplementary questions that were asked of only 5 percent of the population. Edwin D. Goldfield, National Research Council, Innovations in the Decennial Census of Population and Housing: 1940-1990, at 19 (Aug. 1992) (hereafter "Innovations") (A.R. C001362). The Census Bureau also began using characteristic imputation in the 1940 Census by imputing missing ages. Hogan Decl. ¶ 39; R. Jenkins, Procedural History of the 1940 Census of Population and Housing 67 (A.R. C00344); Encyclopedia, at 197 (A.R. C00431); Innovations, at 45 (A.R. C01388).

17. In the 1950 Census, the Bureau expanded its use of characteristic imputation to other categories of missing information. Innovations, at 45-46 (A.R. C01388-89). The Census Bureau also expanded its use of sampling. Id. at 20 (A.R. C01363).

18. The current codified Census Act was enacted in 1954, which initially contained language requiring enumerators "to visit personally each dwelling house in his subdivision." 13 U.S.C. § 25(c) (repealed). In 1957, Congress undertook a substantial revision of the Act pursuant to "an official recommendation" of the Secretary of Commerce. H. Rep. No. 1043, 85th Cong., 1st Sess. 1 (1957). The Secretary of Commerce specifically sought express statutory authority for sampling to codify the Census Bureau's existing practices of obtaining supplemental information by asking questions on a sample basis. Amendment of Title 13, United States Code, Relating to Census: Hearing Before the House Comm. on Post Office and Civil Service on H.R. 7911, 85th Cong., 1st Sess. 7-8 (1957) (letter from Commerce Secretary Sinclair Weeks).

19. As requested by the Secretary, Congress passed Pub. L. 85-207, adding section 195, the statute upon which plaintiffs base this action:

Except for the determination of population for apportionment purposes, the Secretary may, where he deems it appropriate, authorize the use of the statistical method known as "sampling" in carrying out the provisions of this title.

Pub. L. 85-207, 71 Stat. 481, 483, 484 (1957). The stated purpose of the bill was to "authoriz[e] certain changes in the forthcoming censuses and . . . clarify[] present authorities at a number of points," "to improve the quality of census undertakings and to effect economies." Report of Proceedings: Hearing Before the House Comm. on Post Office and Civil Service on H.R. 7911, 85th Cong., 1st Sess. 4 (1957).

20. Although computers were first used in the 1950 Census, the 1960 Census was the first to use computers to produce the apportionment count. See Hogan Decl. ¶ 41; 1960 Censuses of Population and Housing: Procedural History 81-84 (1966) (A.R. C00376-80); Encyclopedia, at 197 (A.R. C00431). It was primarily to address the problems associated with

the advent of this data processing that the Census Bureau first used count imputation to add individuals to the census apportionment totals in the 1960 census. The Census Bureau used both household size imputation and occupancy imputation (as well as characteristic imputation). See 1960 Procedural History, at 83 (A.R. C0079). The Bureau reported that "[p]ersons substituted" due to "noninterview" or "mechanical failure" were responsible for 0.5 percent of the total U.S. census count in 1960. Id. at 1-195 (Table B-1) (A.R. C00383).

21. In 1964, Congress repealed the section of the Census Act that required enumerators to personally visit each house.⁸ Pub. L. No. 88-530, 78 Stat. 737 (1964). This change paved the way for the Census Bureau to introduce the mail-out/mail-back procedure which allowed for "self-enumeration" through completion of a written questionnaire in the 1970 Census.⁹ Hogan Decl. ¶ 42; 1997 Report to Congress, at 1 (A.R. C0133); Innovations, at 10 (A.R. C01353).

22. In the 1970 Census and every subsequent one, the largest share of the population was enumerated through the mail-out/mail-back procedure. Hogan Decl. ¶ 42. In processing of data, the 1970 Census used imputation techniques similar to those used in the 1960 Census, except that the Census Bureau made far more extensive use of hot decks. See id. ¶ 43; Encyclopedia, at 197 (A.R. C00431); 1970 Census of Population and Housing, Procedural History (PHC(R)-1) 15-65 (1976) (A.R. C00395). The 1970 apportionment count included about

⁸In 1960, questionnaires were mailed out but individuals were instructed to turn them in to an enumerator who would be visiting their household. Innovations, at 40-41 (A.R. C01383-84).

⁹The mail-out/mail-back procedures withstood challenges in two cases: West End Neighborhood Corp. v. Stans, 312 F. Supp. 1066 (D.D.C. 1970), and Ouon v. Stans, 309 F. Supp. 604 (N.D. Cal. 1970).

900,000 imputed persons out of a total population of 203,211,926 million.¹⁰ DSSD Briefs, Information, and Topics Memorandum Series #F-1, Sampling and Statistical Methods in Past Censuses (Jan. 13, 1997) (hereafter "Sampling and Statistical Methods in Past Censuses (#F-1)") (A.R. C001460-64).

23. Section 195 was amended in 1976 as part of a bill whose primary purpose was the authorization of a mid-decade census. After much consideration of the issue over two decades, Congress determined that the most efficient and effective way to conduct the mid-decade census would be through sampling. Section 195 was amended to read:

Except for the determination of population for purposes of apportionment of Representatives in Congress among the several States, the Secretary shall, if he considers it feasible, authorize the use of the statistical method known as "sampling" in carrying out the provisions of this title.

Pub. L. No. 94-521, § 10, 90 Stat. 2459, 2464 (1976). The Senate Report stated that this provision "strengthens congressional intent that, whenever possible, sampling shall be used." S. Rep. 1256, 94th Cong., 2d Sess. 6 (1976). The report also explains that the purpose of the bill is "to direct the Secretary of Commerce to use sampling and special surveys in lieu of total enumeration in the collection of statistical data whenever feasible." Id.

24. In 1980, approximately 761,000 persons out of a total population of 226,545,805 million were added to the final count through imputation. See Hogan Decl. ¶ 47; Imputation of

¹⁰In addition, in the 1970 Census, two unusual situations arose that resulted in the use of sampling to add persons to the apportionment count. See 1970 Census of Population and Housing, Evaluation and Research Program, Effect of Special Procedures to Improve Coverage in the 1970 Census (PHC(E)-6) Chaps. VI & VII (1976) (A.R. C00404-11). These procedures were known as the National Vacancy Check and the Post Enumeration Post Office Check ("PEPOC"). Neither procedure has been used on a sampling basis in subsequent censuses. Hogan Decl. ¶ 44.

26. Only approximately 53,600 individuals out of a total of population of 248,709,873 million were imputed in 1990. See Hogan Decl. ¶ 52; Sampling and Statistical Methods in Past Censuses (#F-1) (A.R. C01460-64). The very low rate of count imputation in 1990 was attributed largely to the Census Bureau's institution of better questionnaire control procedures and more clerical edit procedures, which gave clerks more human review of questionnaire forms and more opportunity to make conscious and even unconscious judgments on resolving questionnaire discrepancies using prepared job aids. Hogan Decl. ¶ 53.

27. As a result of perceived accuracy problems of the 1990 Census, Congress unanimously passed bipartisan legislation directing the National Academy of Sciences to study ways to improve the accuracy of the Census count. 1997 Report to Congress, at ix (A.R. 00131). The Census Bureau, under the direction of Congress and with input from the National Academy of Sciences and various advisory groups, began to review every aspect of the census to determine how to proceed with Census 2000. Hogan Decl. ¶ 61. Ultimately, the Census Bureau adopted a plan to use three sampling programs -- nonresponse followup, integrated coverage measurement, and the postal vacancy check. Id.

28. In response to the Census Bureau's proposed use of sampling in Census 2000, in 1997 Congress attempted to amend 13 U.S.C. § 141(a) to provide that "[n]otwithstanding any other provision of law, no sampling or any other statistical procedure, including any statistical adjustment, may be used in any determination of population for purposes of the apportionment of Representatives in [C]ongress among the several States." H.R. 1469, tit. VIII(b)(1), at 65. The President vetoed the bill, in part due to the prohibition on the use of sampling in Census 2000. 33 Weekly Comp. Pres. Doc. 846-48 (June 16, 1997). Following this veto, Congress passed

legislation requiring the Census Bureau to provide a report to Congress outlining the Census Bureau's plan for Census 2000. Pub. L. 105-18, Title VIII, 111 Stat. 158, 217 (1997). After receiving the 1997 Report to Congress, Congress and the President continued negotiations regarding sampling in the context of the legislation necessary to fund the Commerce Department for fiscal year 1998.

29. The compromise reached by the political branches is embodied in sections 209 and 210 of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1998, Pub. L. No. 105-119, 111 Stat. 2440, 2480-87 (1998) (hereafter the "Appropriations Act" or "Pub. L. No. 105-119"). Section 210 establishes "a Census Monitoring Board that will observe and monitor all aspects of the preparation of the 2000 census." 143 Cong. Rec. S12,666 (daily ed. Nov. 13, 1997) (Statement of Sen. Hollings); see 143 Cong. Rec. H1,0919 (daily ed. Nov. 13, 1997) ("to oversee the whole process from the inside, so that everyone can be assured that it is being done the proper way") (Statement of Rep. Rogers).¹²

30. Section 209 of the Appropriations Act also contains separate provisions relating to potential, pre-census lawsuits to challenge the use of sampling in Census 2000. That section characterized as "final agency action" the 1997 Report to Congress and Census 2000 Operational Plan (1997) and said that "the decennial enumeration of the population is a complex and vast undertaking, and if such enumeration is conducted in a manner that does not comply with the Constitution and laws of the United States, it would be impracticable for the States to obtain, and

¹²In addition, the House voted to create another subcommittee of the Committee on Government Reform and Oversight to oversee the Census. 143 Cong. Rec. H1,0911 (daily ed. Nov. 13, 1997) (Statement of Rep. Becerra).

the courts of the United States to provide, meaningful relief after such enumeration has been conducted." Sec. 209(a)(8) (emphasis added). The legislative history evidenced that Congress recognized that the "sampling" proposed for Census 2000 constituted "the unprecedented use of a series of complex and controversial statistical sampling procedures" that had "never before been used to determine the official population count for the purposes of apportionment, and represents a dramatic departure from the manner in which all previous censuses have been conducted." H.R. Rep. No. 105-207, 105th Cong., 1st Sess. at 65 (1997) (attached hereto as Ex. F). These challenges to the then-pending plan to use sampling to generate the official census returns for all purposes, including apportionment of the House, culminated in the Supreme Court's decision in Department of Commerce v. United States House of Representatives, 525 U.S. 316 (1999). In that case, the Supreme Court held that "§ 195 directly prohibits the use of sampling in the determination of the population for purposes of apportionment." Id. at 340 (footnote omitted). As a result, the Bureau eliminated all three proposed sampling programs from the 2000 Census. Since these methods had formed the backbone of the original census plan, the Bureau returned to its traditional enumeration plan. Hogan Decl. ¶ 63.

31. As in the 1960 through 1990 censuses, the traditional plan for Census 2000 included count imputation as the method to address data processing problems. Hogan Decl. ¶ 58. Prior to commencement of the census, the Census Bureau presented all details of the plan for Census 2000, including its intention to use imputation and other statistical methodologies,¹³ to

¹³Imputation was not the only statistical methodology incorporated in the final plan for Census 2000. Statistical methods underlie every aspect of a modern nonsampling census, from address building to unduplication to quality assurance. Some of the statistical processes incorporated in the Census 2000 include quality assurance, the primary selection algorithm, disclosure avoidance, the duplicate housing unit operation, and characteristic imputation. For

the congressional committees charged with oversight of Census 2000, the General Accounting Office, the Census Monitoring Board, the Inspector General of the Department of Commerce, and numerous advisory committees.¹⁴ Hogan Decl. ¶ 65. A total of approximately 0.4 percent of the population, equaling approximately 1.2 million persons out of a total population of 281,421,906 million, was added to the apportionment count in 2000 through count imputation. Hogan Decl. ¶ 60; DSSD 2000 Procedures and Operations Memorandum Series B-17, Census 2000: Missing Housing Unit Status and Population Data (Feb. 28, 2001) (A.R. C01010-28). Although the number and percentage of count imputations were higher in Census 2000 than in 1990, the percentage was in line with the percentages in earlier censuses. Id.

ARGUMENT

I. THE CENSUS BUREAU'S USE OF COUNT IMPUTATION DOES NOT VIOLATE THE CENSUS ACT

Section 195 does not apply here because imputation is a completely distinct, separate, and

example, the Census Bureau's quality assurance programs use statistical methodologies to detect possible enumerator problems and target these problem cases for re-check. As another example, the primary selection algorithm ("PSA") identifies multiple responses for the same census identification number and uses a set of pre-defined criteria to determine which housing unit and person data to include in the apportionment numbers. Hogan Decl. ¶ 64.

¹⁴See, e.g., Census 2000 Operational Plan Using Traditional Census-Taking Methods II-6, IX-10, XI-4-5 (Jan. 1999) (A.R. C01752, C01805, C01818-19); Updated Summary: Census 2000 Operational Plan 9 (Feb. 1999) (A.R. C01731); Census 2000 Plan Workflow – Key Operations (March 1999) (A.R. C01517-1523); Census 2000 Operations Plan, Workflow and Schedule (March 17, 1999) (A.R. 001524-44); DSSD Census 2000 Procedure and Operations Memorandum Series #Q-2, Census 2000 Overview of Unclassified Estimation (Aug. 8, 1999) (A.R. C00816-18); Census 2000 Specifications for Imputing Housing Unit Status and Population Counts (Aug. 8, 1999) (A.R. C00858-86); see also Letter from Kenneth Prewitt, Director of the Bureau of the Census, to the Hon. Carolyn B. Maloney (Jan. 14, 1999) (A.R. C01484-89); Letter from Kenneth Prewitt, Director of the Bureau of the Census, to the Hon. Dan Miller (March 17, 1999) (A.R. C01513-16).

unrelated methodology from sampling. Hogan Decl. ¶ 7, 18, 23-24. See also Declaration of Joseph Waksberg, former Associate Director of the Census Bureau and currently Chairman of the Board of Westat, Inc., filed in support herewith ("Waksberg Decl.") ¶¶ 7-9, 11. The language and legislative history of 13 U.S.C. § 195 establish that Congress intended only to prohibit random probability sampling, not to prohibit distinctly different statistical methodologies, such as count imputation. And, contrary to plaintiffs' assertions, the Census Bureau consistently has interpreted count imputation, which it began utilizing in 1960, as falling outside the strictures of section 195, which Congress passed in 1957 at the request of the Secretary of Commerce. Hogan Decl. ¶ 24.

A. Section 195 Prohibits Only The Use Of Sampling For Apportionment Purposes, And Imputation Is Not Sampling

"[T]he starting point for interpreting a statute is the language of the statute itself." Consumer Product Safety Comm'n v. GTE Sylvania, Inc., 447 U.S. 102, 108 (1980); New Mexico Cattle Growers Ass'n v. United States Fish and Wildlife Serv., 248 F.3d 1277, 1281 (10th Cir. 2001); St. Charles Inv. Co. v. Commissioner of Internal Revenue, 232 F.3d 773, 776 (10th Cir. 2000). "It is well recognized by this circuit that in drafting legislation, we assume Congress says what it means." In re Overland Park Financial Corp., 236 F.3d 1246, 1252 (10th Cir. 2001). In the present case, the language is clear. The statute prohibits "the use of the statistical method known as 'sampling'" for apportionment purposes. Sampling is in quotes, indicating that it refers to a specific procedure. The statute does not say "statistics" or "statistical methodologies" or "imputation," but "sampling." Therefore, to the extent the Census Bureau is prohibited from using any procedure to determine the population for purposes of apportionment,

that procedure is sampling. "Sampling" has a well-established meaning among statisticians, and that meaning does not encompass the methodology of count imputation. Hogan Decl. ¶ 30.

The Census Bureau's use of count imputation has been challenged on only one previous occasion. In Orr v. Baldrige, No. IP-81-604-C, slip op. (S.D. Ind. July 1, 1985) (Ex. A), Indiana filed suit challenging the Bureau's use of count imputation in the 1980 Census because Indiana narrowly lost a seat in the House of Representatives to Florida. Indiana stipulated, however, that imputation was not sampling. Orr, slip op. at 5-6 ("The plaintiffs concede and the Court agrees, that hot deck imputation is not sampling"). Despite this stipulation, the court addressed the issue of whether imputation fell within the scope of 13 U.S.C. § 195. The court agreed that imputation is not sampling, adopting definitions of those terms that made it clear the two were distinct:

Sampling is the selection of a subset of units from a larger population in such a way that each unit of the population has a known chance of selection. Sampling is used where a scientifically selected set of units can be used to represent the population from which they are drawn. Inferences about the entire population can be based on sample results. Imputation, on the other hand, is a procedure for determining a plausible value for missing data. Imputation is used in both sample surveys and censuses with the goal of achieving as complete an enumeration of the sampled or population units. In short, sampling is one of a variety of techniques which may be used in an attempt to improve the accuracy of a count (unless, as here, it is prohibited by law), while imputation, in some form, must be performed once the census taker determines that data from a known and identified housing unit is missing. Thus hot deck imputation does not violate § 195's specific ban on sampling.

Orr, slip op. at 5-6. This Court similarly should recognize the distinctions between "sampling" prohibited by the statute and imputation and deny plaintiffs' claim.

Dr. Howard Hogan, the Bureau's declarant in the instant case, also explains that "sampling" and "imputation" are not the same. Hogan Decl. ¶¶ 19, 21-23; see also Waksberg Decl. ¶¶ 6-11. As Dr. Hogan describes it, and as the Orr court accepted, the two methodologies

fit into two different stages of conducting a census or survey – the *data collection* stage and the *data processing* stage.¹⁵ *Id.* The term "sampling" refers to one strategy of data collection and can be said to encompass some or all of the activities in the data collection stage. *Id.* By contrast, imputation (count imputation or other types) is a statistical procedure applied only in the *second* stage, the data processing stage. *Id.* Thus, sampling and imputation "are two completely different procedures, based upon totally distinct principles and serving equally distinct purposes." *Id.* ¶ 23.

Interestingly, plaintiffs employ a similar analysis, but use it to try to link imputation to sampling in hopes that imputation will somehow be considered sampling through association.¹⁶ Thus, plaintiffs state that "in the context of the decennial census, statistical sampling is a two-step process whereby the Census Bureau (1) gathers information from various components or 'samples' of the population, and then (2) 'imputes' that information to other non-sampled components of the same population."¹⁷ *Pltfs' Mem.* at 14. However, the fact that imputation may sometimes be used as the data-processing method *following* a sampling data-collection procedure

¹⁵It is for this reason that the discussions of imputation in the procedural histories of the 1960-1990 censuses appear under the data or mechanical processing sections. *See* A.R. C00381, C00395-96, C00415, C00425; *see also Innovations*, at 19, 45 (separate sections for Sampling and Data Processing, which includes imputation) (A.R. C01362, C01388); *Encyclopedia*, at 195, 327 (separate sections for Editing and Imputation and for Sampling).

¹⁶In fact, because of its deterministic nature, some statisticians do not even consider imputation, especially hot-deck imputation, to be a statistical methodology. *See* J. Farber, U.S. Bureau of the Census, *A Comparison of Imputation Methods For Sampling For Nonresponse Follow-Up* (A.R. C01635-41) ("the hot deck consists of non-statistical procedures"); Schafer, *supra* at 268 ("hot deck is . . . fundamentally non-statistical") (A.R. C01418).

¹⁷Plaintiffs cite to the *1997 Report to Congress*, at x in support of this proposition. Not only does that page not mention imputation, but it describes the Census Bureau's planned sampling programs that were later invalidated in the *House* case.

does not mean that imputation is included *within* the concept of sampling. Moreover, the definitions of "sampling" used by plaintiffs' declarants – Drs. Rubin and Wolfson – do not encompass "imputation" as used in Census 2000. Hogan Decl. ¶ 25-26.

Dr. Rubin first provided an affidavit regarding the use of imputation in the decennial census over twenty years ago on behalf of the plaintiffs in Orr v. Baldrige, who stipulated that imputation is not sampling. See Affidavit of Donald B. Rubin (hereafter "Rubin Orr Aff.") (attached hereto as Ex. G). The purpose of his declaration in that case was to provide his opinion "concerning similarities and differences between sampling and the 'hot-deck' imputation used in the 1980 Census." Rubin Orr Aff. ¶ 4 (emphasis added). In his declaration, Dr. Rubin agreed with the definition of sampling provided by the Census Bureau in its responses to plaintiffs' interrogatories:

As used in statistical, demographic, and population survey applications, the term "sampling" refers specifically to "probability" sampling." A "sample" may, in the vernacular, refer to any subset of units provided by any arbitrary process. "Probability Sampling" refers to a method of sampling such that each unit of population has a known, non-zero probability, or chance, of selection.

Defendants' Answers to Plaintiffs' First Set of Interrogatories, Interrog. No. 13, at 7 (Oct. 21, 1981) (A.R. C01167-68) (attached hereto as Ex. H); Rubin Orr Decl. ¶ 5. Dr. Rubin also agreed that imputation is not a form of probability sampling. Id. ¶ 7 ("The hot-deck imputation technique used in the 1980 Decennial Census . . . is not a method of probability sampling").

In this suit, by contrast, Dr. Rubin (¶ 13) now defines sampling as "refer[ring] to the process of obtaining data from a subset of a population (the subset is usually called the 'sample') from which estimates are made about characteristics of the entire population." This definition does not incorporate the process of deliberately selecting a subset of the population, as did the

definition Dr. Rubin adopted in Orr.¹⁸ See Hogan Decl. ¶ 27; Waksberg Decl. ¶ 10. Indeed, Dr. Rubin apparently recognizes this problem with his definition, because later in his declaration (¶¶ 16, 17) he writes that the "way in which the sample is chosen is critical" and that "[i]n order to use a sample for valid scientific estimation, specific sampling design requirements must be adhered to." Hogan Decl. ¶ 27. Without the notion of *deliberate or purposeful selection*, Dr. Rubin's definition is overly broad and inconsistent with the "sampling" intended by the Census Act. Id.; see also Waksberg Decl. ¶ 10 ("I believe that [Dr. Rubin and Dr. Wolfson] have extended the meaning of 'sampling' both beyond the definition used by almost all statisticians involved in research on censuses and surveys, and in the context of the Census Act").

Dr. Wolfson (¶ 45) defines sampling as "the *process of selecting* a number of subjects [units] from all the subjects [units] in a particular group or 'universe'" (quoting from John M. Last, Ed., A Dictionary of Epidemiology, 3d ed., Oxford University Press, at 151 (1995) (emphasis added)). Unlike Dr. Rubin's definition, this definition does focus on the process of *deliberately selecting* units from a particular universe during the design of a survey, and therefore it has no application to the 2000 Census, where the Census Bureau attempted in numerous ways to contact everyone in the frame and made no "selection" of a subgroup in designing the census. Hogan Decl. ¶ 26. This definition, therefore, also does not encompass imputation. As explained above, imputation is *not* a mechanism for selecting units during the design phase of a census or

¹⁸ A definition from a standard textbook is both more traditional and more useful than those of Dr. Rubin and Dr. Wolfson: "A sampling method is a method of selecting a fraction of the population in a way that the selected sample represents the population." Pandurang V. Sukhatme, Sampling Theory of Surveys With Applications 9 (1954). This definition emphasizes the fact that sampling refers to the deliberate selection of less than the whole population. Sukhatme's book was published around the time that 13 U.S.C. § 195 was first enacted and thus provides a useful context for the use of the word "sampling" in that statute. Hogan Decl. ¶ 27 n.5.

sample survey, but rather is a means of dealing with missing data in the data processing stage.

Id.; Waksberg Decl. ¶ 10.

Plaintiffs further attempt to move imputation into the realm of sampling by claiming that the Bureau decided to include "phantom individuals" and "phantom residents of phantom housing units" in Census 2000. Pltfs' Mem. at 3-4. Plaintiffs presumably are referring to status imputation with this suggestion. As described, supra at 8, 14-15, status imputation was used when the Census Bureau's records had conflicting or insufficient information about whether an address represented a valid, non-duplicated housing unit. Hogan Decl ¶¶ 8, 14-15, 54-55. The addresses for which such imputation was performed were not fictional or "phantom" addresses, as plaintiffs assert. These addresses represented households for which sufficient information existed for inclusion in the Census Bureau's Master Address File. Id. Thus, it is incorrect to state that this procedure imputes for "households not even known to exist" (Wolfson Decl. ¶ 42) or whose existence was "doubtful" (id. ¶ 27), and plaintiffs' implication that these procedures are more indicative of sampling must fail.

B. The Supreme Court's Interpretation of Section 195 In House Of Representatives Does Not Help Plaintiffs

Plaintiffs rely heavily on the Supreme Court's decision in House, which held that the Census Bureau's proposed plan to use statistical sampling in Census 2000 violated section 195 of the Census Act. 525 U.S. at 343.¹⁹ However, that case is inapposite and does not undermine the

¹⁹The Bureau planned to use sampling in three programs: nonresponse followup, integrated coverage management, and the postal vacancy check. The latter program was not challenged or at issue in the litigation. 525 U.S. at 325 n.1. After the former two programs were invalidated by the Supreme Court, the Census Bureau did not use any of the three programs in Census 2000. Instead, the Census Bureau returned to the traditional census procedures it effectively has used since 1960. Hogan Decl. ¶ 62.

determination in Qrr that "[s]ampling and imputation are different statistical methods with different purposes. Congress' prohibition of one has no bearing on the legality of the other one." Qrr, slip op. at 7.

The House decision must be read in light of the highly specific circumstances under which the case was brought. Congress specifically authorized the filing of a pre-census lawsuit two years before Census 2000 through passage of section 209 of Pub. L. 105-119 (codified at 13 U.S.C. § 141 Note), by characterizing as "final agency action" the 1997 Report to Congress and the Census 2000 Operational Plan (1997), which proposed the sampling programs at issue in the House case. The legislative history evidenced this pre-census review was authorized because Congress recognized the unprecedented nature of the sampling proposal:

The Committee is aware that the Administration has proposed the unprecedented use of a series of complex and controversial statistical sampling procedures as an alternative to traditional methods that rely primarily upon the physical counting of persons. This proposed methodology has never before been used to determine the official population count for the purposes of apportionment, and represents a dramatic departure from the manner in which all previous censuses have been conducted.

H. Rep. No. 105-207, 105th Cong., 1st Sess. at 65 (1997) (emphasis added) (Ex. F).

There is nothing in the House opinion to suggest that the Supreme Court intended to prohibit the Census Bureau from continuing its long-standing practice of using imputation, along with other traditional enumeration methodologies.²⁰ In fact, the House of Representatives (the

²⁰In his dissent, Justice Breyer specifically states that: "Section 195 of the Census Act, at least in my view, could not have been intended as a prohibition so absolute as to stop the Census Bureau from imputing the existence of a living family behind the closed doors of an apparently occupied house." 525 U.S. at 355. Plaintiffs therefore are incorrect in their claim that Justice Breyer in his dissenting opinion in the House case "acknowledged that imputation is a 'sampling technique[.]'" Pltfs' Mem. at 3. Justice Breyer recognized that "[b]oth before and after § 195 was enacted in 1957, the census has used sampling techniques in one capacity or another in

plaintiff in House) itself distinguished statistical sampling from imputation:

since 1960 the Bureau has used a statistical methodology known as "imputation" in circumstances where an enumerator knows that particular housing units are occupied, but cannot determine how many person live there. Rather than treat these units as one with no occupants, the Bureau has assigned to each such unit the number and characteristics of another housing unit on the same block, a method know as "hot deck imputation." . . . Imputation differs from Defendants' sampling plan in that imputation has been applied only as a last resort and always with respect to a specific housing unit based on physical evidence.

Memorandum of Plaintiffs United States House of Representatives in Reply to Defendants' Opposition to Plaintiffs' Motion for Summary Judgment at 32 (attached hereto as Ex. I).

Plaintiffs' reliance on House is therefore misplaced.

C. The Census Bureau Has Consistently Interpreted Section 195 As Not Barring Imputation, And The Legislative History And Subsequent Congressional Actions Support That Interpretation

The Census Bureau's position is that the language of the Census Act is clear and unambiguous, and no further inquiry is required: when Congress used the term "sampling," it meant probability or random sampling and did not intend "sampling" to prohibit other statistical methodologies, such as imputation. As the discussion below shows, the Census Bureau consistently has applied this interpretation and treated section 195 as permitting imputation, and Congress has amended the Census Act numerous times since section 195's enactment. The Census Bureau's consistent action regarding imputation and Congress's actions, as well, support

connection with its determination of the population." 525 U.S. at 352. In the next paragraph, Justice Breyer adds that "[t]he Census Bureau has also used a form of statistical estimation to adjust or correct its actual headcount. Since at least 1940, the Census Bureau has used an estimation process called 'imputation' to fill in gaps in its headcount." Id. (emphasis added). Justice Breyer cites to page 23 of the 1997 Report to Congress – the same page on which plaintiffs rely to support their contention that the Census Bureau has called imputation a method of sampling. See id.

the Bureau's position here.²¹ See NLRB v. Bell Aerospace Co., 416 U.S. 267, 274-75 (1974) ("In addition to the importance of legislative history, a court may accord great weight to the longstanding interpretation placed on a statute by an agency charged with its administration. This is especially so where Congress has re-enacted the statute without pertinent change"); accord United States v. Jackson, 280 U.S. 183, 196-97 (1930); Lorillard v. Pons, 434 U.S. 575, 580 (1978) ("Congress is presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change").

To the extent there is any question as to the meaning of the Census Act, the Census Bureau's interpretation of the Act is further entitled to substantial deference under Chevron U.S.A., Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984). Especially great deference is also due the Census Bureau's interpretation here because the Constitution and federal statutes explicitly grant extremely broad authority to the federal government in determining the "form and content" of the census. See, e.g., Wisconsin v. New York, 517 U.S. 1, 23 (1996); City of Detroit v. Franklin, 4 F.3d 1367, 1377-78 (6th Cir. 1993), cert denied, 510 U.S. 1176 (1994); District of Columbia v. United States Dep't of Commerce, 789 F. Supp. 1179, 1189 (D.D.C. 1992); Cuomo v. Baldrige, 674 F. Supp. 1089, 1105-08 (S.D.N.Y. 1987).

²¹Plaintiffs try to avoid the clear distinctions between imputation and sampling by claiming that "the Census Bureau itself has characterized imputation as a method of 'sampling.'" Pltfs' Mem. at 3, 12-13 (citing 1997 Report to Congress, at 23). Plaintiffs' support for their statement that the Bureau has characterized imputation as sampling buckles upon a reading of the actual document to which plaintiffs refer. In the 1997 Report to Congress that plaintiffs cite, the Census Bureau in fact calls imputation a "statistical method," not a "method of 'sampling.'" See A.R. at C00155. Likewise, plaintiffs' claim that the introduction of the Report supports their theory that imputation is a form of sampling is erroneous. Pltfs' Mem. at 12. No references to imputation appear on that page. See A.R. C00132. Moreover, that page is irrelevant because it discusses the proposed sampling plan for Census 2000, which was invalidated in House and never used by the Census Bureau.

Contemporaneous Census Bureau statements and legislative proceedings at and around 1957 demonstrate that section 195 was passed at the request of the Census Bureau and that Congress and the Bureau understood sampling to mean the method of examining a small portion of the population to derive information on the whole. For example, when testifying in 1957 before the Appropriations Committee on the Department of Commerce's budget for fiscal year 1958, Mr. Robert W. Burgess, Director of the Bureau of the Census, stated "[w]e believe, also, that there is a place for sampling; that is in dealing with information notably about occupation and industry. . . . If we can find, say, that a 25-percent sample gives accurate results for what is wanted, we have cut down the work to an important extent." Department of Commerce and Related Agencies Appropriations for 1958: Hearings Before a House Subcomm., Comm. on Appropriations, 85th Cong., 1st Sess. 679 (1957) (attached hereto as Ex. J). At the same hearing, Director Burgess assured the Committee that the Census Bureau was "working continuously to minimize the burden on respondents and appreciated the desirability of cutting down, by the use of sampling, the number of smaller concerns required to respond." Id. at 680. For instance, he explained that the Census Bureau "was only taking a 10 percent sample" of small transactions. Id. at 686.

Since it began using count imputation in 1960, prior to each census, the Census Bureau has submitted its proposed census plans and specifications, evidencing its intent to use imputation, to congressional oversight committees for approval. Hogan Decl. ¶ 65. And, after each census, the Census Bureau has published its results, including the number of imputed persons, in its procedural histories, analyses and reports, as well as testified at congressional oversight hearings concerning them. Hogan Decl. ¶¶ 41, 43, 46, 51, 77.

In 1976, during consideration of the amendment to section 195, the Director of the Bureau of the Census reiterated that "sampling" involved a selection, as is the case in probability or random sampling: "I think it is important to spend a minute or two differentiating how we conduct a sample survey versus how we conduct a decennial census. . . . In a sample survey, a sample is selected." Mid-Decade Census Legislation: Hearing on S. 3688 and H.R. 11377 Before the Senate Subcomm. on Census and Statistics, Comm. on Post Office and Civil Service, 94th Cong., 2d Sess. at 62 (1976) (Statement of Vincent P. Barabba, Director of Bureau of the Census) (emphasis added); see also 121 Cong. Rec. H9,792 (daily ed. April 7, 1976) (Statement of Rep. Schroeder) (discussing a proposed "25 percent across-the-board sample survey"). Congress amended section 195 in 1976 as part of a bill whose principal purpose was to authorize a mid-decade census.²² The requisite deference to an agency's statutory interpretation is even stronger when, as here, Congress reenacts a statutory provision without substantial change.

In a published report announcing the Secretary's decision not to adjust the 1980 Census,²³

²²Congress has amended the Census Act several times since 1976, but never to preclude the use of imputation. See, e.g., Pub. L. 105-252 (1998); Pub. L. 104-13 (1995); Pub. L. 103-430 (1994); Pub. L. 103-430 (1994); Pub. L. 103-105 (1993); Pub. L. 101-533 (1990); Pub. L. 101-509 (1990); Pub. L. 99-544 (1986); Pub. L. 99-467 (1986).

²³Adjustment applies to the undercount, a different problem from missing data (which is resolved through imputation). Missing data results from households that the Census Bureau knows or believes to exist but for one of several reasons does not have a population count for that household. In contrast, the undercount consists of individuals that the Census Bureau has reason to believe exist from other studies and surveys, but the Census Bureau has no addresses for or means to reach. "Imputation is based on physical evidence. There is a unit which is the site for any imputed value. Adjustment is not based on physical evidence related to a particular unit." The Decennial Census Improvement Act: Hearing on H.R. 3511 Before the House Subcomm. on Census and Population, Comm. on Post Office and Civil Service, 100th Cong., 2d Sess. at 73 (1988) (Follow-up Questions for Dr. Robert Ortner, Under Secretary of Commerce for Economic Affairs) (A.R. C01277).

the Bureau explained that the "1980 census data covering the vast majority of Americans will result from a pure count in the full tradition and practice of enumeration." Census Undercount Adjustment: Basis for Decision, 45 Fed. Reg. 69,373 (Oct. 20, 1980) (emphasis added) (A.R. C01220). The Bureau then proceeded to describe its implementation of the 1980 enumeration process, including its use of count imputations. Id.

In 1991, Dr. Barbara Everitt Bryant, then Director of the Bureau of the Census, included imputation as part of the traditional census.

After all efforts are made through mail, personal interview, repeat visits to each housing unit, talking to neighbors, observation, coverage improvement operations, and so on, to identify and complete the enumeration for every housing unit, we still have a certain level of unfinished work. That is, our address control file contains housing units that have been identified by our enumerators as occupied but for which they were not able to collect population information. We also have housing units where it is not known whether the unit is occupied or vacant. In either of these cases, for the last several censuses, we have determined that the counts are improved if we use a procedure to impute persons for these units, rather than just assume there are no persons in these units.

Oversight Hearing to Review the 1990 Census Counts: Hearing Before the House Subcomm. on Census and Population, Comm. on Post Office and Civil Service, 102d Cong., 1st Sess. 18 (1991) (Testimony of Dr. Barbara Everitt Bryant, Director of the Bureau of the Census) (emphasis added) (A.R. C01287).

Similarly, L. Nye Stevens, Director, Government Business Operations Issues, GAO, also distinguished the Census Bureau's use of imputation from sampling. "The Bureau's use of nonhousehold sources and imputation to help build the census population count in 1990 was consistent with the Bureau's practices in previous censuses."²⁴ United States General Accounting

²⁴He further stated: "After census field data collection efforts are completed, there is always a residual number of housing units where the Bureau was unable to determine the number

Office, Testimony, GAO/T-GGD-91-8, Statement of L. Nye Stevens, Director, Government Business Operations Issues, General Government Division, Before the Subcomm. on Census and Population, House Comm. on Post Office and Civil Serv., 102d Cong., 1st Sess. 1 (1991) (A.R. C00668). Mr. Nye also distinguished between the Census Bureau's use of imputation and sampling: "For example, the 1970 count included about 900,000 imputed persons Sampling also was used to add to the 1970 count Due to concerns about the legality of sampling, the Bureau did not use sampling techniques as part of the 1980 census but did impute about 762,000 persons into the census count." *Id.* at 11-12 (A.R. C00678-79).

Census 2000 was subject to enormous scrutiny. In addition to the normal congressional oversight of any decennial census, under section 210 of Pub. L. 105-119, Congress established "a Census Monitoring Board" to "observe and monitor all aspects of the preparation of the 2000 census," 143 Cong. Rec. S12,666 (daily ed. Nov. 13, 1997) (Statement of Sen. Hollings), and the House voted to create another subcommittee of the Committee on Government Reform and Oversight to oversee the Census. 143 Cong. Rec. H1,0911 (daily ed. Nov. 13, 1997) (Statement of Rep. Becerra). While, as the discussion herein shows, Congress undoubtedly has been aware of the Census Bureau's use of imputation, it has never attempted to curb its use, even after imputation was challenged by Indiana for shifting a seat in the House of Representatives in 1980.

In 1998, the Census Bureau conducted a Dress Rehearsal for the 2000 Census in three

of persons who lived in the unit or, in other cases, if the unit was even occupied. In such situations, the Bureau imputes population counts. Imputation, an accepted practice in survey research, is the assignment of information for unreported items on a questionnaire. The Bureau has applied statistical procedures that use completed census questionnaires from neighboring units to complete the questionnaire for the unit where the Bureau could not gather data." *Id.* at 10-11.

sites. The Census Bureau used the sampling plan in two of the sites – Sacramento, California and Menominee County, Wisconsin – and used "traditional" census methods (without sampling procedures) in the third site, Columbia, South Carolina, and eleven of its surrounding counties. R. Singh, Census 2000 Dress Rehearsal Methodology and Initial Results (A.R. C01657-62). As part of the "traditional" census, the Census Bureau used imputation to account for nonresponse and missing data in the Columbia, South Carolina, dress rehearsal results. *Id.* The results, including the imputed numbers, were provided to the Monitoring Board. Hogan Decl. ¶ 65. These groups intensely scrutinized the planning and conduct of Census 2000, yet no one commented on, questioned, or opposed the continued use of count imputation.²⁵

As the discussion above shows, Congress itself has described imputation as part of the "traditional" census.²⁶ See Oversight Hearing to Review the 1990 Census Counts: Hearing Before the House Subcomm. on Census and Population, Comm. on Post Office and Civil Serv., 102d Cong., 1st Sess. 29 (1991) (Follow-Up Questions for the Census Bureau) ("Both the PES

²⁵Plaintiffs allege that the Census Bureau disregarded the requirements of P.L. 105-119 because it did not publish data separating the number of persons actually "enumerated without using statistical methods." Pltfs' Mem. at 49 n.21. However, this was consistent with the Census Bureau's treatment of imputation as part of the traditional enumeration process and unadjusted census figures. Imputation is one of the many data-processing close-out procedures performed prior to arriving at the final census totals. See Census 2000 Decision Memorandum No. 98, Decision on the Census 2000 Data Products and the Requirements of Public Law (P.L.) 105-119 (Feb. 9, 2001) (A.R. C01602-04).

²⁶Plaintiffs' division of the census-taking process into two methods, the first being "counting persons by traditional methods of enumeration" and the second being imputation (as well as their continual use of "traditional methods" to exclude imputation) thus does not comport with the view of Congress or the Census Bureau of what is "traditional." Ironically, among the methods plaintiffs list as being part of the "traditional enumeration" is the Census Bureau's "questionnaire mail-out and mail-back campaign," Pltfs' Mem. at 25, which was first used in 1970, ten years after imputation was introduced as a census procedure. Hogan Decl. ¶ 42.

[Post Enumeration Survey] and the traditional census process have missing data problems which are filled by last resort (or "proxy") information, less-than-last resort information, and imputation").

Ever since the first enactment of section 195 in 1957, at the request of the Secretary of Commerce, the Census Bureau not only has used imputation, but has specifically documented its use in connection with the 1960-2000 Censuses. During that time, the Census Bureau consistently has interpreted section 195 as permitting the use of imputation in conjunction with other enumeration procedures employed in the decennial census. Hogan ¶ 11. Congress has reenacted section 195 and the Census Act without significant change during this period, and there is nothing in the legislative history that Congress intended to proscribe such usage.

Accordingly, the Census Bureau's reasonable, consistent, and uncontradicted interpretation of the Census Act as not including imputation within its prohibition against "sampling" is entitled to substantial deference and should be upheld. See Chevron, 467 U.S. at 842-45; Tapia Garcia v. Immigration Naturalization Serv., 237 F.3d 1216, 1220-21 (10th Cir. 2001); Pharmanex v. Shalala, 221 F.3d 1151, 1154 (10th Cir. 2000).

II. THE CENSUS BUREAU'S USE OF COUNT IMPUTATION IS CONSTITUTIONAL

The Constitution "requires an 'actual Enumeration' of the population every 10 years and vests Congress with the authority to conduct that census 'in such Manner as they shall by Law direct.'" Wisconsin, 517 U.S. at 5. Congress has delegated the entirety of its broad power over the census to the Secretary to conduct it "in such form and content as he may determine" 13 U.S.C. § 141(a). Recognizing the wide range of constitutionally permissible options available to

the federal government in effecting an actual Enumeration, the Supreme Court has held that judicial scrutiny of the Secretary's choices in conducting the census is limited to "determining whether the Secretary's interpretation is consistent with the constitutional language and the constitutional goal of equal representation." Wisconsin, 517 U.S. at 19-20. Thus, the Secretary's decision to utilize imputation "need bear only a reasonable relationship to the accomplishment of an actual enumeration of the population, keeping in mind the constitutional purpose of the census." Id. at 20. The Secretary's consistent use of imputation during the last five decennial censuses easily passes this test.

The constitutional allegation of the plaintiffs' complaint focuses on the phrase "actual Enumeration," ignoring the explicit grant of power to Congress to decide the "Manner" in which the federal government takes the census. However, as shown below, and contrary to plaintiffs' assertions, the phrase "actual Enumeration" is not sufficiently "precise" in and of itself to circumscribe Congress's – and the Secretary's – "virtually unlimited discretion in conducting the decennial 'actual Enumeration,'" Wisconsin, id. at 19. Just as Congress could choose among several yardsticks of apportionment equality, United States Dep't of Commerce v. Montana, 503 U.S. 442 (1992), or among several ways of accounting for overseas federal employees, Franklin and Utah I, and just as the Constitution's "actual Enumeration" requirement does not compel the Secretary to use sampling against his considered judgment, Wisconsin, the Constitution does not circumscribe the Secretary's use of imputation as a methodology in the traditional census to account for missing data for known housing units. As shown below, the use of imputation "bears a *reasonable relationship* to the *accomplishment* of an actual enumeration of the population" (emphasis added) and therefore passes constitutional muster. Wisconsin, 517

at 19-20.

As plaintiffs acknowledge, "there apparently was no recorded debate explicitly addressing the meaning of the words 'actual Enumeration' when they were added to the Constitution by the Committee of Style" at the Constitutional Convention. Pltfs. Mem. at 45. Nevertheless, plaintiffs attempt to circumscribe the meaning by arguing that an "actual Enumeration" involves counting people "separately," "singly," "number by number," or "distinctly," citing Justice Scalia's concurring opinion in House. Pltfs' Mem. at 37, 39. However, plaintiffs do not explain what they mean by counting "singly" or "separately" or how that method excludes imputation. They admit that the phrase "physical headcount" "does not quite capture" the meaning. Id. at 38. But, in the absence of a requirement for a physical headcount, or visual enumeration of some type, imputation is fully consistent with the notion of "actual Enumeration," as well as with historical practice, as it counts individuals in separate, identified housing units.

The use of imputation is in line with other methods used by the Bureau of the Census over the years to count people, which methods plaintiffs do not challenge as falling outside "actual Enumeration." The Supreme Court has emphasized "the importance of historical practice in this area." Wisconsin, 517 U.S. at 21; see also Montana, 503 U.S. at 465 ("To the extent that the potentially divisive and complex issues associated with apportionment can be narrowed by the adoption of both procedural and substantive rules that are consistently applied year after year, the public is well served . . ."). That practice reveals that count imputation is similar to and part of a long line of census techniques that have been instituted to further the efficiency or accuracy of the census, such as reliance on the mail-out/mail-back procedure, see Hogan Decl. ¶ 42, on information provided by a member of the family about the entire family, Act of Mar. 1, 1790, ch.

2, § 1, 1 Stat. 101-102; General Government Division, United States General Accounting Office, GAO/GCD-98-103, Decennial Census: Overview of Historical Census Issues 15-16, 24 (May 1998), and on information obtained from "proxies," such as neighbors, landlords, or postal workers, when a member of the household cannot be found after repeated tries. Act of Mar. 3, 1879, ch. 195, § 8, 20 Stat. 473, 475; see Hogan Decl. ¶ 11.²⁷

Similarly, plaintiffs' attempt to classify imputation as a "mere estimate" forbidden by the Apportionment Clause is unavailing. Imputation is not the sort of "estimation" with which plaintiffs assert that the Framers were concerned. See Pltfs' Mem. at 37.²⁸ The Framers were concerned with broad, speculative guesses that were not based on any attempt to actually count inhabitants, such as were used to fix the initial apportionment of Representatives. Because the Constitution did not require an "actual Enumeration" of the population to be made until three years after Congress' first meeting, Section 2 provided for a specific initial apportionment of representatives to each state. See U.S. Const. Art. I, § 2, cl. 3 ("until such enumeration shall be made, the State of New Hampshire shall be entitled to chuse three [Representatives],

²⁷The mail-out/mail-back procedure has been upheld against constitutional challenge (at the preliminary injunction stage) in decisions recognizing the Census Bureau's considerable discretion and the "enormity of the task." See West End Neighborhood Corp., 312 F. Supp. at 1068 (holding that use of the mail-out/mail-back method "is in the discretion of the Director of the Bureau of the Census," that his decision "is not without some 'rational' basis," and that "it may be the best system available in light of limited personnel, financial resources, and the enormity of the task undertaken"); Quon, 309 F. Supp. at 606-07 (noting that the mail-out/mail-back method "is not perfect . . . [perhaps] not even the best method" but that, "within the resource limits available to the Government and for the reasons expressed by the Bureau of the Census, [it] is fairly and rationally suited to bringing about the desired ends of maximum enumeration").

²⁸It is also not the type of estimation which is discussed in the sources plaintiffs reference on pages 39 and 44-46 and in note 19 of their brief. Those sources distinguish "enumeration" from methods of estimation that do *not* attempt to count everyone. Imputation as used in Census 2000 is a method used in a census that *is* endeavoring to count everyone.

Massachusetts eight, Rhode-Island and Providence Plantations one, Connecticut five," etc.). The Framers honestly admitted that this interim assignment was based on conjecture as to the states' current populations and wealth, which were imperfectly known, and on conjecture as to the states' likely population growth. 1 M. Farrand, *The Records of the Federal Convention of 1787*, at 559-579 (1966 ed.) (hereafter "Farrand"). The contrast between this initial apportionment mechanism and the permanent one set out in the Constitution makes clear that the type of "estimation" about which the Framers were concerned was that based on conjecture, projections, political dealmaking, or pure guesswork, not the limited use of a procedure designed to deal with inevitable errors or missing data during a census that *is* attempting to count every inhabitant.²⁹

For similar reasons, Justice Scalia's discussion in House, on which plaintiffs rely, is not apposite here. Imputation was not the issue in House. Rather, at issue was the Census Bureau's proposed use of sampling methods for the apportionment count, which Justice Scalia impliedly characterizes as "gross statistical estimates." House, 525 U.S. at 347. Imputation – a limited procedure for handling missing data for reported addresses – is simply not the type of "gross statistical estimate" that Justice Scalia found inconsistent with the notion of counting singly. Moreover, the use of imputation in a census that is strenuously trying to count every inhabitant does not raise the same concerns regarding dramatically different methods for apportionment that were raised by the proposed use of sampling. Unlike sampling, imputation has been used for many decades as one small method for determining the total population count for apportionment

²⁹The Framers' concern to establish a "permanent and precise standard" for apportionment, *Pltfs' Mem.* at 39, is also not relevant here. The cited discussion pertained to the issue of whether the timing of the reapportionment (and census) should be left to the discretion of Congress, not to any issues regarding census methodologies or methods of "counting." See 1 Farrand at 559-78.

purposes, with the full knowledge and tacit permission of Congress.

In light of the virtually unlimited discretion granted Congress and the Secretary to conduct the "actual Enumeration" and the lack of a clear prohibition on use of the imputation methodology, the Court's review of whether imputation is constitutional is limited to whether the Secretary's use of count imputation is "consonant with" the constitutional language and the constitutional goal of equal representation. As explained above, in the 2000 Census, the Census Bureau went to extraordinary and intensive lengths to reach and count every inhabitant of the United States. Hogan Decl. ¶¶ 67-76. At the conclusion of data collection activities, out of over 120 million addresses enumerated, only a very small percentage of these addresses were unaccounted for as a result of missing data. Hogan Decl. ¶ 8. Imputation is a method for counting the people in those addresses. *Not* to impute a plausible value is to impute *zero* occupants for those households, which is the equivalent of *not* counting the individuals in those households. Hogan Decl. ¶ 10. Imputation is thus consistent with the language of the Census Clause, which requires that Congress conduct an "actual Enumeration" of, that is, "actually count," the inhabitants of the United States "in such Manner as [the Congress of the United States] shall by Law direct."³⁰

Count imputation is only one of many methodologies that the Secretary chose to use to

³⁰Definitions from dictionaries published at or around the time of the Constitution establish that the meaning of "enumeration" was "the act of numbering" or "the act of counting over." See, e.g., Samuel Johnson, A Dictionary of the English Language (1755, facs. reprint publ. 1968) (defining enumeration as "[t]he act of numbering or counting over"). "[A]ctual" meant "really in act" or "in act, not in speculation." See *id.* (defining actual as "1. That which comprises action. . . . 2. Really in act, not merely potential. . . . 3. In act, not purely in speculation").

improve the accuracy of Census 2000.³¹ As explained by Dr. Howard Hogan, imputation contributed to making the census more accurate as refusing to impute would be to ignore the people that are known to exist. Hogan Decl. ¶ 10. As the On court found, "the Bureau had to use some form of imputation." Slip op. at 6; see also id. at 9-10 ("The Bureau had no choice but to impute some occupancy status and/or number of occupants to unclassified units. . . . For the Bureau to have ignored the questionnaires for these units would have been clearly incorrect"). The alternative to imputing a positive number is to impute a value of zero, i.e., to decide that all addresses with questionable or incomplete data represent vacant or nonexistent housing units. This conclusion is demonstrably untrue, as studies have shown that a significant proportion of

³¹The courts have been reluctant to intervene in the Secretary's decisions as to how to achieve an accurate census because of the great discretion granted Congress (and hence the Secretary) and because accuracy does not provide a easily measurable standard by which to evaluate census methods or policies. See, e.g., Wisconsin, 517 U.S. at 14, 18; Montana, 503 U.S. at 463 ("[t]he polestar of equal representation does not provide sufficient guidance to allow us to discern a single constitutionally permissible course" among apportionment formulae). In addition, the Supreme Court has recognized that census data are inherently "not perfect," Karcher v. Daggett, 462 U.S. 725, 732 & n.4, 735-38, 752 (1983), and that every census since 1790 has produced an undercount. Wisconsin, 517 U.S. at 6. See also Gaffney v. Cummings, 412 U.S. 735, 745 (1973) (The census counts "may be as accurate as such immense undertakings can be, but they are inherently less than absolutely accurate. Those who know about such things recognize this fact . . ."); City of Detroit, 4 F.3d at 1371.

The Supreme Court has also refused to decide between "distributive" accuracy and "numeric" accuracy. "Numeric" accuracy refers to how close the total population count for a particular geographic area comes to the true total for that geographic area. "Distributive" accuracy refers to how close the proportion of the count attributable to that area, as compared to that of another area, comes to the true proportion. The Supreme Court has held that, although "a preference for distributive accuracy . . . would seem to follow from the constitutional purpose of the census," there is nevertheless no constitutional ground "for preferring numerical accuracy to distributive accuracy, or for preferring gross accuracy to some particular measure of accuracy." Wisconsin, 517 U.S. at 18, 20. In any event, the declaration of Dr. Hogan reveals that the Bureau has considered both measures in deciding upon imputation, Hogan Decl. ¶¶ 31-36, and the Court must give broad deference to its decision.

such addresses are actually valid, occupied housing units. Hogan Decl. ¶ 10. Thus, to impute zero, as plaintiffs would do, would actually result in *more* error, rather than less. The Orr court recognized this fact, holding that "the challenged method [hot-deck imputation] seems more reasonable and accurate than the alternatives proposed by the plaintiffs." Slip op. at 10. As Dr. Hogan explains, and as the cited studies show, imputation is recognized in the statistical community as a valid procedure to improve the accuracy and reliability of censuses and surveys. Hogan Decl. ¶ 31. For all of these reasons, the Secretary's decision to use imputation is reasonable and reasonably furthers the constitutional goal of equal representation.

Plaintiffs also assert that the Framers' primary intent behind the Apportionment Clause was to remove discretion from "the hands of the political officers controlling the census" to forestall "unseemly manipulation." Pltfs' Mem. at 39 (quoting 1 Farrand, at 578). Plaintiffs' focus on imputation's potential for manipulation is, however, misguided. Whatever the Framers' concerns were, the fact is that they granted Congress (and, hence, the Secretary) "virtually unlimited discretion" in the conduct of the census. Plaintiffs' claim amounts to no more than a nonjusticiable dispute about this allocation of power made by the Framers.

In any event, the Framers' concerns with political manipulation were directed towards the possibility of *local* bias or manipulation of the census, specifically, by the individual states. See 1 Farrand, at 580 (remarks of Mr. Randolph) ("[t]he census must be taken under the direction of the General Legislature. The States will be too much interested to take an impartial ones for themselves"). See District of Columbia v. United States Dep't of Commerce, 789 F. Supp. 1179, 1182, 1189 n.1 (D.D.C. 1992) ("The history of this section of the Constitution suggests that the Framers . . . sought to protect the national census from local bias by entrusting it to the national

government") (citations and footnote omitted); City of Philadelphia v. Klutznick, 503 F. Supp. 663, 677 (E.D. Pa. 1980).

This fear expressed by the Framers could not be better illustrated than by the circumstances of this case and its predecessor, for Utah clearly is attempting to skew the apportionment results by arguing for the elimination of those census methods that did not benefit Utah in the 2000 Census. It is for this reason that courts have held that "permitting local governments to challenge the Bureau's conclusions would ultimately threaten the notion of national control of the census." District of Columbia, 789 F. Supp. at 1189 n.21.

To allow local governments to gain control over the national census by applying to the courts for readjustment, recalculation, substitution and replacement of the Bureau's figures and techniques under the guise of judicial review is to sacrifice the national program to the exact dangers of local manipulation and bias, no matter how well intentioned, that the Framers sought to avoid.

Id. (quoting City of Philadelphia, 503 F. Supp. at 677 (E.D. Pa. 1980)).

In contrast to the individual states, the Census Bureau has no interest in the particular results of a census and so is in the best position to decide upon particular census methods and policies. And there is no evidence that the Census Bureau's use of imputation in Census 2000 was politically motivated.³² As with most other census methods, the specifications for the imputation process were defined ahead of time, before the impact of those specifications on individual states could be known. In addition, the details of the Census were closely examined by Congress and by other outside parties beforehand. Indeed, Congress created a special

³²Certainly the plaintiffs never raised such any charge prior to the Census, even though one of the plaintiffs, Senator Robert F. Bennett, was a member of Senate Committee on Government Affairs, the Senate Committee which oversees the Department of Commerce and the Census.

monitoring board, the Census Monitoring Board, and also set up a new Census Subcommittee for the purpose of, among other things, monitoring the 2000 Census. Pub. L. No. 105-119, Title II, § 210. Additional oversight was provided by the Department of Commerce Inspector General, the General Accounting Office, various advisory committees, and the National Academy of Science Panel to Review the 2000 Census. Finally, there is a well-established "presumption of regularity that 'supports the official acts of public officers and, in the absence of clear evidence to the contrary, courts presume that they have properly discharged their official duties.'" American Fed'n of Gov't Employees, AFL-CIO v. Reagan, 870 F.2d 723, 727 (D.C. Cir. 1989) (quoting United States v. Chemical Foundation, 272 U.S. 1, 14-15 (1926)).

It is true that the use of imputation affected the apportionment count here, but that fact does not make imputation any more subject to manipulation (and hence less constitutional) than any other census method. Nor does the fact that the rate of imputation changed between 1990 and 2000 indicate partisan manipulation of some kind. Many of the methods adopted by Congress and the Census Bureau over the decades to create a more efficient and more accurate census can have a significant impact on the census numbers (such as the decision to count overseas federal employees, see Franklin and Utah I, and the adoption of the method of equal proportions, see Montana) and the impact of these other methods may vary from year to year also.³³ Carried to its logical extreme, plaintiffs' concern about congressional abuse of power would invalidate these methods also, and negate entirely the Census Clause's grant of authority

³³2000 was not the unusual year for imputation; rather, 1990 was, as can be seen by the chart submitted by Dr. Hogan. Hogan Decl. ¶ 60.

over the census to Congress.³⁴

III. JUDICIAL REVIEW UNDER THE APA IS PRECLUDED

A. Franklin And Utah I Preclude Review

Plaintiffs raise a nominal, three-page Administrative Procedure Act argument which calls the use of imputation "manifestly arbitrary" because "the administrative record on which the Bureau relied contains no studies or analysis, or indeed any substantial evidence sufficient to demonstrate that imputation furthers [the] constitutional purpose" of equal representation. Pltfs' Mem. at 4. However, as was the case in Franklin v. Massachusetts, 505 U.S. 788 (1992), and State of Utah v. Evans, No. 2:01CV002B, slip op. at 10 (D. Utah April 17, 2001) (three-judge court) ("Utah I") (Ex. B), plaintiffs' attempt to raise an APA challenge must fail.

Utah I was the first lawsuit filed by the instant plaintiffs to obtain the 435th seat in the House of Representatives. Plaintiffs in Utah I claimed that had overseas federal employees not been included in the counts, or had missionaries of the Church of Jesus Christ of the Latter Day Saints been included, Utah would have won the 435th seat instead of North Carolina. As the three-judge court recognized, however – consistent with Franklin, 505 U.S. at 799 – the actions of the Census Bureau and the Secretary of Commerce in determining to include overseas federal employees in the apportionment counts did not constitute the requisite final agency action giving rise to APA review. Utah I, slip op. at 11. Instead, it was the action of the President in accepting the counts produced through the decennial census and transmitting those counts in his report to Congress "that settle[d] the apportionment, until he acts there is no determinate agency action to

³⁴Since imputation is constitutional and not in violation of the Census Act, the use of specific forms of imputation in specific circumstances can be challenged only under the Administrative Procedure Act, which is not available here. See Franklin.

challenge." Id. (quoting Franklin, 505 U.S. at 799); see 2 U.S.C. § 2a(a). As the Utah I court found, "[b]ecause the President is not an agency, there was no statutory standing to challenge the apportionment under the APA." Utah I, slip op. at 11. Plaintiffs' attempts to distinguish their challenge from that of Massachusetts in Franklin were unavailing: "That decision controls, and we are unpersuaded by plaintiffs' attempts to distinguish Franklin." Id. at 11 n.2.

The same result should obtain here for the same reasons. It is the President's action in transmitting the total population counts to Congress on January 4, 2001, and not any particular procedures by which those counts were obtained, that constitutes the final agency action here. It is telling that plaintiffs in their memorandum make no attempt to address or distinguish Franklin or Utah I.³⁵

B. The Census Bureau's Decision To Use Count Imputation Is Committed To Agency Discretion By Law

If the Court determines that imputation is not sampling under section 195, then as the court held in Orr, the Census Bureau's decision to use imputation to address nonresponse and missing data is committed to agency discretion by law. Orr, slip op. at 7; see 5 U.S.C. § 701(a)(2). Section 701(a)(2) mandates that "review is not to be had" in circumstances where the relevant statute "is drawn so that a court would have no meaningful standard against which to judge the agency's exercise of discretion." Lincoln v. Vigil, 508 U.S. 182, 191 (1993); Heckler v. Chaney, 470 U.S. 821, 830 (1985). "In such a case, the statute ('law') can be taken to have

³⁵Plaintiffs do not attempt to distinguish Franklin based on section 209 of Public Law 105-119 (codified at 13 U.S.C. § 141 Note), or otherwise discuss section 209, although section 209 is the basis for Count III of their Complaint, ¶¶ 48-51, and plaintiffs had attempted at the outset of the case to utilize section 209 to obtain expedited briefing and review of the case. Plaintiffs therefore apparently have waived Count III of their Complaint.

'committed' the decision making to the agency's judgment absolutely." Lincoln, 508 U.S. at 191 (quoting Heckler, 470 U.S. at 830), and the court lacks jurisdiction to review that decision-making. See Mount Evans Co. v. Madigan, 14 F.3d 1444, 1448-49 (10th Cir. 1994) ("whether agency action is subject to judicial review under § 701(a)(2) of the APA is a jurisdictional issue").

This is such a case. Although the Constitution requires a decennial census, it grants Congress "virtually unlimited discretion" to determine the manner in which it is conducted. See Wisconsin, 517 U.S. at 19; see also Art. I, § 2, cl. 3 ("The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent term of ten Years, in such Manner as they shall by Law direct.") (emphasis added). Nothing in the language of the Constitution limits the "Manner" in which Congress may direct that the census be conducted. Congress, in turn, has given the Secretary of Commerce "broad authority" to determine the "form and content" of the Census. See Wisconsin, 517 U.S. at 19; see also 13 U.S.C. § 141(a) ("The Secretary shall, in the year 1980 and every 10 years thereafter, take a decennial census of population as of the first day of April of such year, which date shall be known as the 'decennial census date,' in such form and content as he may determine . . .") (emphasis added). Although Congress has given the Census Bureau certain limited statutory requirements regarding the data needed for apportionment, see, e.g., id. § 141(b)-(c), it has provided no guidelines for the manner in which the Census Bureau collects, collates, and publishes the non-apportionment data.

As the Ninth Circuit stated:

It might be different if the apportionment clause, the census statutes, or the

Administrative Procedure Act contained guidelines for an accurate decennial census, for that would be some evidence that the framers of these various enactments had been trying to create a judicially administrable standard. There is nothing of that sort, and the inference is that these enactments do not create justiciable rights.

Senate of the State of Calif. v. Mosbacher, 968 F.2d 974, 977 (9th Cir. 1992) (quoting Tucker v. United States Dept. of Commerce, 958 F.2d 1411, 1417-18 (7th Cir.), cert denied, 506 U.S. 953 (1992)); see also Tucker, 958 F.2d at 1419 (concurring) ("[T]he plain language of the governing [census] statute makes it clear that the matter is committed to agency discretion. There is 'no law to apply'" (citations omitted); City of Detroit v. Franklin, 4 F.3d 1367, 1376 (6th Cir. 1993) ("[W]e agree that 'merely by directing congressional apportionment in accordance with the decennial census, Article I, section 2, clause 3 does not authorize lawsuits founded on disagreement with the Census Bureau's statistical methodology'" (citing Tucker); accord Board of County Comm'rs of County of Adams v. Isaac, 18 F.3d 1492, 1498 (10th Cir. 1994) (holding that Federal Aviation Administration's decision to withdraw funding for new airport was not reviewable under Lincoln); Orr, slip op. at 7 ("there are no standards by which the propriety of the Bureau's action can be evaluated").

Therefore, plaintiffs' APA claims in this case are not subject to judicial review because the Census Bureau's decision was "committed to agency discretion by law." See 5 U.S.C. § 701(a)(2).

C. The Census Bureau's Decision To Use Imputation To Correct For Nonresponse And Missing Data Survives APA Review

Even if plaintiffs' APA claims were justiciable, they still should be dismissed. Under the APA, the Court must uphold an agency decision unless the plaintiff can show that the decision

was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." See Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 413-14 (1971); see also 5 U.S.C. § 706(2)(A); Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1574 (10th Cir. 1994). Such review is not de novo; rather, "the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court."³⁶ Camp v. Pitts, 411 U.S. 138, 142 (1973). Review of the administrative record is a deferential standard of review [that] only requires that a court examine whether the agency's decision was "based on a consideration of the relevant factors and whether there has been a clear error of judgment." Citizens to Preserve Overton Park, 401 U.S. at 416; Maier v. United States EPA, 114 F.3d 1032, 1039 (10th Cir. 1997); Grynberg v. Watt, 717 F.2d 1316, 1318 (10th Cir. 1983). An agency decision must be upheld if it has a rational basis. Citizens to Preserve Overton Park, 401 U.S. at 414-16; Northwest Pipeline Corp. v. Federal Energy Regulatory Comm'n, 61 F.3d 1479, 1486 (10th Cir. 1995). Under this "narrow" standard of review, a court "is not free to substitute [its] judgment for that of the agency's." Northwest Pipeline Corp., 61 F.3d at 1486.

Contrary to plaintiffs' assertions, see Pltfs' Mem. at 4, 18, 19, it is evident from the administrative record, the declarations filed in the Orr case, and the declarations submitted in this case, that over the past 40 years the Census Bureau has considered the relevant factors and engaged in a reasoned, thoughtful analysis of the use of imputation to address issues of

³⁶The administrative record is the appropriate focal point for review in census cases even where there are attendant constitutional challenges. As is evident here, in the census context, judicial review of both constitutional and APA claims is highly deferential and limited in scope.

nonresponse and missing data.³⁷ See also Schafer, *supra* at 268 ("The sequential hot deck has a long history at the Bureau; its edit and imputation rules have been developed and revised over the course of several decades") (A.R. C01418).

In *Orr*, the court determined that if the Census Bureau's decision to use count imputation were susceptible to review, that decision would not be arbitrary or capricious:

The basic alternatives available to the Bureau were to (1) ignore the questionnaires for these units; (2) impute a zero for the population totals and a vacant occupancy status for these units; or (3) impute occupancy status and number of occupants (if any) using a more reliable and accurate procedure than options (1) or (2).

Orr, slip op. at 10. "[T]he Bureau's use of hot deck imputation was an entirely reasonable means of dealing with the problem of incomplete data for identified housing units." *Id.* In all cases, whether it be zero imputation (as proposed by plaintiffs), or hot-deck imputation (the procedure being challenged here), some form of imputation must be used. Hogan Decl. ¶ 10. The question then is not whether to impute, but how, and, as the *Orr* court recognized, that decision should be left to the Secretary's discretion.

Plaintiffs' assertion that imputation is "questionable" or "unreliable," or represents a "statistical leap of faith" (Pltfs' Mem. at 16-17),³⁸ is not shared, and is even refuted, by many

³⁷See Hogan Decl. ¶ 57, and the many studies, research papers, memorandums, analyses cited therein. Over the years, these documents collectively have examined and confirmed the validity and efficacy of the count imputation methodology, the homogeneity assumption, and the hot-deck technique, as well as their overall improvement to accuracy.

³⁸For example, Professor Wolfson points to the fact that she believes that "one would expect that imputed housing units are more likely to be vacant, non-existent, or to have smaller population counts than housing units with respond housing status." Pltfs' Mem. at 17. However, for Census 2000, the Census Bureau selected the donor housing units only from the universe of housing units that had been contacted by an enumerator during nonresponse followup, rather than from the universe of all housing units. The Bureau made this change because housing units in

statisticians, including plaintiffs' declarant Donald Rubin.³⁹

Moreover, plaintiffs' very belated assertion that there are alternatives that plaintiffs or the Court may consider superior to the method utilized by the Census Bureau in Census 2000 would not render the Census Bureau's decision to use imputation arbitrary or capricious. "The mere fact that an alternative method of enumeration may exist does not lead to the conclusions that the method employed is arbitrary or any less within the discretion of the Bureau." Borough of Bethel Park v. Stans, 319 F. Supp. 971, 979 (W.D. Pa. 1970), aff'd, 449 F.2d 575 (3d Cir. 1971).

Finally, even if the Court could find an abuse of discretion, the Court's options for remedying the injury would be limited, at best. The proper remedy under the APA is to vacate the agency's decision and remand the matter to the agency for consideration consistent with the reviewing court's decision. The Court could not dictate the decision to be reached nor prescribe the criteria the agency should apply or the finding it may or may not make, because to do otherwise would be to improperly substitute the judgment of the court for that of the agency.

the follow-up universe are generally more similar to each other than to housing units that mail back their returns. Hogan Decl. ¶¶ 38, 59.

³⁹See Donald B. Rubin, Multiple Imputations in Sample Surveys – A Phenomenological Bayesian Approach to Nonresponse 2 (1978) ("I am sympathetic with the imputation position for two reasons. First, it is phenomenological in that it focuses on observable values. . . . Second, in multiresponse surveys, some form of imputation is just about the only practically possible method for handling nonresponse") (Ex. D); Roderick J.A. Little & Donald B. Rubin, Statistical Analysis With Missing Data 43 (1987) ("Imputation is a general and flexible method for handling missing-data problems") (Ex. C); Donald B. Rubin, Basic Ideas of Multiple Imputation for Nonresponse 37 (1986) ("It is not surprising, therefore, that a very common method of handling the missing values created by nonresponse is to fill them in, or impute them. That is, when using imputation to handle nonresponse each missing value is replaced by a real value") (attached hereto as Ex. K); Donald B. Rubin, Multiple Imputation For Nonresponse In Surveys 11-12 (1987) ("Single imputation, that is, filling in a value for each missing value, is probably the most common method for handling item nonresponse in current survey practice") (attached hereto as Ex. L).

Overton Park, 401 U.S. at 416; Federal Power Comm'n v. Idaho Power Co., 344 U.S. 17, 20 (1952); Borough of Bethel Park, 319 F. Supp. at 976-77; Cuomo, 674 F. Supp. at 1105.

Therefore, even if the Court were to find that the Census Bureau's actions were arbitrary and capricious, the Court could not direct the agency to substitute an imputation of zero for those housing units which have missing or incomplete data, as plaintiffs effectively request.

Moreover, the relief plaintiffs seek is inappropriate because the decennial census has been completed. The President has certified the apportionment results and transmitted them to the Clerk of the House of Representatives. Apportionment, therefore, has been effected, and North Carolina is entitled to the 435th House seat.

In the 210-year history of the decennial census, no court has ever overturned the apportionment of seats in the House of Representatives. Plaintiffs present no compelling reason for such extraordinary relief here where the methodologies for conducting Census 2000, including imputation, were subjected to intense review before they were accepted by Congress and used by the Census Bureau. Plaintiffs, having sat silently by for decades, cannot now be heard to claim that the entire apportionment should be overturned.⁴⁰

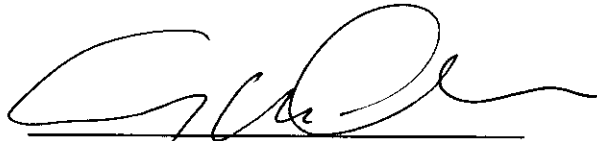
⁴⁰See also Borough of Bethel Park, 319 F. Supp. at 980 ("[e]ven if plaintiffs had so prevailed [on the merits], injunctive relief in their favor would be denied as detrimental to the public interest. . . . Reapportionment of the United States House of Representatives, even if it could be legally ordered, could not be accomplished in time for the [next] Congress, as required by the Constitution and Section 2a of Title 2, U.S.C."); Quon v. Stans, 309 F. Supp. 604, 607-08 (N.D. Cal. 1970) (plaintiffs' attempt to enjoin the use of the "mail out, mail back" method is "directed to the conscience of the court and within its discretion to grant Here all hardships are on the side of the defendants and are great and certain").

CONCLUSION

For the foregoing reasons, plaintiffs' complaint should be dismissed under Federal Rules of Civil Procedure 12(b)(1) and 12(b)(6) or, alternatively, Defendants are entitled to judgment as a matter of law pursuant to Federal Rule of Civil Procedure 56. Plaintiffs' Motion for Summary Judgment should be denied.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Sandra M. Schraibman', is written over a horizontal line.

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Dated: July 11, 2001

CERTIFICATE OF SERVICE


I hereby certify that on July 11, 2001, a copy of the foregoing Defendants' Memorandum in Support of their Motion to Dismiss or, in the Alternative, their Cross-Motion for Summary Judgement, and in Opposition to Plaintiffs' Motion for Summary Judgment, with exhibits, was sent by Federal Express to:

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